SELF-DRIVING VEHICLE LEGISLATION

HEARING

BEFORE THE

SUBCOMMITTEE ON DIGITAL COMMERCE AND CONSUMER PROTECTION

OF THE

COMMITTEE ON ENERGY AND COMMERCE

HOUSE OF REPRESENTATIVES

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C O N T E N T S

WITNESSES

SUBMITTED MATERIAL

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[1] The information has been retained in committee files and also is available at *https://docs.house.gov/Committee/Calendar/ByEvent.aspx?EventID=106182.*

SELF-DRIVING VEHICLE LEGISLATION

TUESDAY, JUNE 27, 2017

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON DIGITAL COMMERCE AND CONSUMER PROTECTION,
COMMITTEE ON ENERGY AND COMMERCE,
Washington, DC.

The subcommittee met, pursuant to call, at 10:02 a.m., in Room 2123, Rayburn House Office Building, Hon. Robert E. Latta (chairman of the subcommittee) presiding.

Members present: Representatives Latta, Harper, Upton, Lance, Guthrie, McKinley, Kinzinger, Bilirakis, Bucshon, Mullin, Walters, Costello, Walden (ex officio), Schakowsky, Clarke, Cárdenas, Dingell, Matsui, Welch, Kennedy, Green, and Pallone (ex officio).

Staff present: Karen Christian, General Counsel; Kelly Collins, Staff Assistant; Jordan Davis, Director of Policy and External Affairs; Blair Ellis, Press Secretary/Digital Coordinator; Melissa Froelich, Counsel, Digital Commerce and Consumer Protection; Adam Fromm, Director of Outreach and Coalitions; Giulia Giannangeli, Legislative Clerk, Digital Commerce and Consumer Protection/Communications and Technology; Zach Hunter, Communications Director; Paul Jackson, Professional Staff, Digital Commerce and Consumer Protection; Bijan Koohmaraie, Counsel, Digital Commerce and Consumer Protection; Katie McKeough, Press Assistant; Alex Miller, Video Production Aide and Press Assistant; Paul Nagle, Chief Counsel, Digital Commerce and Consumer Protection; Mark Ratner, Policy Coordinator; Madeline Vey, Policy Coordinator, Digital Commerce and Consumer Protection; Hamlin Wade, Special Advisor for External Affairs; Everett Winnick, Director of Information Technology; Michelle Ash, Minority Chief Counsel, Digital Commerce and Consumer Protection; Evan Gilbert, Minority Press Assistant; Lisa Goldman, Minority Counsel; Rick Kessler, Minority Senior Advisor and Staff Director, Energy and Environment; Caroline Paris-Behr, Minority Policy Analyst; Tim Robinson, Minority Chief Counsel; and Andrew Souvall, Minority Director of Communications, Member Services, and Outreach.

Mr. LATTA. Good morning. I'd like to call the Subcommittee on Digital Commerce and Consumer Protection to order, and I now recognize myself for 5 minutes for an opening statement.

OPENING STATEMENT OF HON. ROBERT E. LATTA, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OHIO

Good morning again, and welcome to today's hearing on self-driving vehicle legislation. Driving is an integral part of American life.

When you think about who drives, you realize that it is pretty much everyone: urban and rural, young and old, and everyone and everywhere in between.

Tragically, however, traffic fatalities are on the rise. Last year there were over 40,000 fatalities and over 2 million injuries on our Nation's highways.

Our goal today is to enact the right policies to encourage self-driving technologies that can drastically reduce those opportunities to address this problem.

One of the most important pieces is to define the right roles for the Federal, State, and local governments. The need for this framework was laid out by the Obama administration just last year from the front bumper to the back bumper.

Whether it is a pickup truck, a car, or a van, how the vehicle works and its design should be the province of the Federal Government as the case has been for more than 50 years.

The States and localities have an equally important role to play in determining insurance requirements, titling cars, requiring registration, and setting the rules of the road.

They get to enact and enforce traffic laws and regulations, as well. States will also still be able to offer incentives to entities that are early actors in this field if they want to encourage testing in their States.

We simply cannot have cars that stop at State lines. Just last week, we celebrated the 61st anniversary of President Eisenhower's interstate highway system connecting families and people across the country.

We also want to maintain leadership in the United States. Testing is now happening in Europe, Australia, Japan, and China. Remaining at the forefront of this innovation ensures that we do not delay safety advances while also having the opportunity to grow jobs and investment.

Over the last year, we have seen 80 State bills introduced in legislatures across the country. We want to be sure that a confusing patchwork does not emerge that would hurt innovation and ultimately would be bad for the consumer.

Earlier this Congress, we held a hearing on smart communities and had the opportunity to hear from many different communities about the new technologies they were evaluating to bring to the benefits in their areas.

In my home State of Ohio, the city of Columbus won the Department of Transportation Smart City Challenge last year and is already leveraging new technology to gather information-approved services for the community.

Technology to improve everything from safety to sanitation to the environment is going through a period of innovation and communities are looking for wise investments to improve the lives of their citizens.

This innovation will be a focus of the committee for years to come, especially self-driving vehicles. We are at the early stages and as the technology advances so will the need for us to continue our oversight.

This first step is to set the broad outline to bring better safety and mobility to everyone. We want the Government to work actively with industry.

It is important that we have these discussions in the early stages of innovation so that we do not limit the potential benefits.

Our staffs have had constructive conversations with the Department of Transportation. They understand that the public will need to know an active watchdog is overlooking the industry as the administration continues to nominate candidates to join the department.

I look forward to working together to advance these important goals. Finally, I always have had an open-door policy, and I know we cannot get this right without real-world stakeholder input.

We will move forward under regular order with multiple opportunities to improve upon the staff drafts. We will meet with anyone—we are participating in bipartisan meetings. Pickups, cars, and vans are integral in the American way of life.

When you revolutionize something so important to everyday life, you can greatly improve every day—you can always improve it.

This isn't the Government saying that you have to get in a self-driving car. This is a Government making sure that the industry can innovate in response to our changing lives.

I am ready to work with my colleagues to bring the safety investment and many of the benefits to the American people in Ohio and across the country.

[The prepared statement of Mr. Latta follows:]

PREPARED STATEMENT OF HON. ROBERT E. LATTA

Good morning and welcome to the Digital Commerce and Consumer Protection Subcommittee hearing on self-driving vehicle legislation. Driving is an integral part of American life. When you think about who drives, you realize it is pretty much everyone. Urban and rural, young and old, and everyone and everywhere in between.

Tragically, however, traffic fatalities are on the rise. Last year there were over 40,000 fatalities and more than 2 million injuries on our Nation's highways. Our goal today is to enact the right policies to encourage self-driving technologies that can drastically reduce those numbers. We have a real opportunity to address this problem.

One of the most important pieces is to define the right roles for the Federal, State, and local governments. The need for this framework was laid out by the Obama administration just last year. From the front bumper to the back bumper—whether it's a pickup truck or a car or a van, how the vehicle works and is designed should be the province of the Federal Government as has been the case for more than 50 years.

The States and localities have an equally important role to play in determining insurance requirements, titling cars, requiring registration and setting the rules of the road. They get to enact and enforce traffic laws and regulations as well. States will also still be able to offer incentives to entities that are early actors in this field if they want to encourage testing in their State.

We simply cannot have cars that stop at State lines. Just last week we celebrated the 61st anniversary of President Eisenhower's interstate highway system connecting families and people across the country.

We also want to maintain leadership in the United States. Testing is happening in Europe, Australia, Japan and China. Remaining at the forefront of this innovation ensures that we do not delay safety advancements, while also having the opportunity to grow jobs and investment. Over the last year, we have seen 80 State bills introduced in legislatures across the country. We want to be sure that a confusing patchwork does not emerge that would hurt innovation and ultimately would be bad for the consumer.

Earlier this Congress, we held a hearing on Smart Communities and had the opportunity to hear from many different communities about the new technologies they are evaluating to bring new benefits into their areas. In my home State of Ohio, the city of Columbus won the Department of Transportation's Smart City Challenge last year and is already leveraging new technology to gather information to improve services for the community. Technology to improve everything from safety to sanitation to the environment is going through a period of innovation and communities are looking for wise investments to improve the lives of their citizens.

This innovation will be a focus of the committee for years to come, especially self-driving vehicles. We are at the early stages and as the technology advances so will the need for us to continue our oversight. This first step is to set the broad outlines to bring better safety and mobility to everyone. We want the Government to work actively with industry. It is important that we have these discussions in the early stages of innovation so that we do not limit the potential benefits.

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Finally, I have always had an open door policy, and I know we cannot get this right without real world stakeholder input. We will move forward under regular order, with multiple opportunities to improve upon the staff drafts. We will meet with anyone, and we are participating in bipartisan meetings.

Pickups, cars, and vans are integral to the American way of life. When you revolutionize something so important to everyday life you can greatly improve everyday life. This isn't the Government saying you have to get in a self-driving car. This is Government making sure that industry can innovate in response to our changing lives. I'm ready to work with my colleagues to bring the safety, investment, and many other benefits to the American people in Ohio and everywhere.

Mr. LATTA. And at this time, I would like to yield to the vice chairman the remainder of my time.

Mr. HARPER. Thank you, Mr. Chairman, for calling today's hearing to continue the subcommittee's important work on self-driving vehicles.

Three weeks ago today I actually had my first opportunity to ride in a self-driving car with Audi and it was an incredible experience and I am very thankful because my wife and I are the parents of an adult child with special needs. He has Fragile X syndrome and for the disability community one of the top problems that you have is transportation.

So my son works Monday through Friday but my wife is the one who has to get him to and from work. He can't go anywhere without someone taking him. So this is something that opens up all kinds of possibilities. I want to thank each of the witnesses for being here.

This is really a game changer, I believe, for our future and for our very special population.

With that, I yield back.

Mr. LATTA. Well, thank you very much. The gentleman yields back, and the Chair now recognizes for an opening statement the gentlelady, the ranking member from Illinois.

OPENING STATEMENT OF HON. JANICE D. SCHAKOWSKY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS

Ms. SCHAKOWSKY. Thank you, Mr. Chairman. I want to first acknowledge that in the audience today is Joan Claybrook, who is a pioneer and continuing advocate for auto safety, former head of NHTSA. I want to welcome you here.

The 14 bills before us today represent the starting point, by no means the ending point, for autonomous vehicle legislation.

My Democratic colleagues and I are ready to discuss the majority's ideas, bring our own to the table and work toward a single legislative package. I will need to see the additions and changes to the bill before I can give my support.

But it is my hope that we can have a bipartisan negotiation and we will see, hopefully, and perhaps put us on a path towards safe adoption of autonomous vehicles.

Safety must be the top priority of AV legislation. Autonomous vehicles have the potential to save lives, reducing the number of accidents caused by human error.

We can't take those gains for granted, though. Safety improvements depend on rigorous testing, responsible deployment, and consumer confidence in the technology.

While safety is my primary consideration, I just want to mention that autonomous vehicles, it is predicted, could displace about 4.1 million driving jobs. We just have to think about those kinds of transitions and how will putting AVs on the road affect congestion and air quality.

The key elements of the majority's approach are exemptions and State preemption. Notably absent from the bills before us is any direction for a rulemaking by NHTSA on autonomous vehicles.

Automakers' requests for exemptions, which seems very premature to me, acknowledge that autonomous vehicles may not comply with existing Federal Motor Vehicle Safety Standards.

Exemptions are no substitute for updated safety standards as more AVs share the road. Exemptions should only be a stopgap as NHTSA determines how to update existing laws and what additional safety standards might be necessary for AVs. We need to figure out a responsible way to keep innovation moving forward while ensuring safety at every stage.

State preemption is not a new concept in auto safety. States are currently barred from legislation—from regulating design features of cars once NHTSA adopts a Federal standard.

The Republican draft proposes preemption without any requirement for a Federal standard. I believe we need a framework for updating Federal standards if we even have that conversation about preemption, which I am very skeptical about.

I also don't want to lose sight of the current potential for safety improvements. Some of the automakers pushing hardest for AV legislation have been the slowest in making automatic emergency braking, for example, which has proven to save lives—making them standard in all vehicles.

The promise of AVs in the future should not cause us to ignore the safety gains that we can make right now.

For example, rear seat reminders to prevent kids from dying in hot cars—and so we should be doing things like that right now, reminders to imminent hazard authority.

Safety today, safety tomorrow—this legislation package should be a vehicle for both. Our panel today includes industry and consumer interest. However, I am concerned that no one from NHTSA is here to testify. Agency feedback is critical.

We need to be mindful of NHTSA's current limitations and work to provide the data and resources it needs to be an effective consumer watchdog as the technology in our vehicles evolve.

So, Mr. Chairman, I look forward to working with you on this legislation. I thank all of our witnesses for being here today and now I yield the remainder of my time to Congresswoman Dingell.

Ms. DINGELL. I thank you, Madam Schakowsky.

I want to tell you how important I think this hearing is today because this is the new frontier for automobiles. It is not about if this technology is going to be developed. It is where it is going to be developed and by whom, and I am unwilling to yield United States and America not stand at the forefront of innovation and technology.

This is about safety. I could not agree with you more. In 2015, over 35,000 people died on our roadways and early estimates indicate that this could rise to over 40,000 in 2016. That is a staggering amount of lives lost to auto accidents.

NHTSA estimates that 94 percent of highway crashes are due to human error. This development of automated vehicles has the potential to lower that number very significantly. It is why it is so important that we come together around legislation that addresses AV deployment, always putting safety first.

We have an obligation to examine the best ways to safely deploy these technologies, given the incredible amount of upside that they have.

But as I have said, it is going to happen. Let's make it happen here. Today's hearing is an important step towards finding bipartisan consensus on what I hope will be a nonpartisan issue.

The issues on safety do matter. Working with NHTSA does matter. I look forward to hearing our testimony from the witnesses, and I yield back my overtime.

Mr. LATTA. The gentlelady yields back the balance of her time, and the Chair now recognizes for 5 minutes the gentleman from Oregon, the chairman of the full committee.

OPENING STATEMENT OF HON. GREG WALDEN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OREGON

Mr. WALDEN. Thank you very much, Chairman Latta, for your work on this and your staff's work on this and members on both sides of the aisle as we try to find the right legislative concepts.

I want to associate myself with the comments of the gentlelady of Michigan because we too join you in wanting to make sure that this innovation takes place in America first.

We have been on the cutting edge. We can continue to be on the cutting edge. But the long and the short of it is this new technology has a great opportunity to save lives.

I have seen it first hand in the vehicle my wife now has as you look at collision avoidance. We were driving down the highway with the cruise control. I was driving down the highway with the cruise control on.

She was napping and a big blackbird flew in front and the vehicle automatically braked. She thought I was, like, drowsy driving and are you OK, I am fine. It was a bird. Sure, it was a bird. It was a bird.

My point of the story is it saw that and reacted long before I would have, and whether it is a bird or a child or another vehicle gone astray or something that radar is always watching. And the ability to save lives is huge and avoid accidents is tremendous and I just believe we are on the cusp of something big.

I think the future generations will look back and say, "What a bunch of barbarians. You drove yourselves? And how did you text?"

Well, that is part of the problem, because people are doing that today and that is costing us an increasing number of lives—35,000 in 2015, maybe 40,000-plus in 2016. Millions of people being injured.

You think of the loss of life, of limb, of property—everything that is associated with highway fatalities and accidents, the ability to move commerce efficiently through markets, the reduction in pollution that will bring if you are not stalled in a traffic jam because we found a better way to run a convoy of trucks through.

Now, we don't have commercial trucking in this committee. We stopped at light trucks. And so these are issues that will be addressed in the future.

But we are on the cusp of something really big here. I am really impressed with what I have learned that the automakers are engaged in I have seen, as I say, first hand and once you have this technology, by the way, you have to reeducate yourself when you get in your old vehicle because it doesn't beep and bark and the wheel doesn't automatically keep you between the lines.

The question, though, is do you want these cars to stop at every State line? Because every State would have a different system. We have never done that in America with autos.

We certainly have common transportation systems with rail, I mean, and so we have to find that right balance between the States and localities and the Federal Government so that we can be the great innovators.

We can save lives. We can improve the environment with this technology. I am just really excited to be on the committee that is going to lead the way.

These are staff discussion drafts. This isn't the end. This is the beginning. But it is the beginning of—we have done a lot up to this point.

And so I just want to thank all the members of the committee on both sides of the aisle as we work forward to find the right balance here.

With that, I want to yield to my friend from the great State of Michigan, former chairman of the committee, who I know has played a leading role in getting us to this point in prior Congresses.

[The prepared statement of Mr. Walden follows:]

PREPARED STATEMENT OF HON. GREG WALDEN

First, I want to thank and commend Chairman Latta for today's hearing and for the subcommittee's diligent work on self-driving vehicles.

Unfortunately, our Nation has seen a sharp rise in vehicle-related injuries and deaths over the past few years. In my home State of Oregon, traffic fatalities last year were the highest they've been since 2003—up 20 percent from the year before.

While no one is claiming that these numbers can be turned around overnight, self-driving vehicle technology has the potential to dramatically improve safety on our

Nation's roadways and that is one of the most important reasons to advance the bills we have under consideration today.

In addition to making our roadways safer, self-driving vehicle technology has the potential to offer many other benefits.

I see real benefits in terms of cleaner cars with less of an environmental impact. The technological advances spurred by self-driving vehicles could ultimately make cars more efficient and create a positive shift in the industry.

Additionally, this technology could help increase transportation access to underserved and rural communities and reduce traffic congestion in some of our largest cities.

Self-driving vehicles could greatly improve mobility and accessibility, empowering senior citizens and those who suffer from disabilities. Simple things most of us take for granted, such as going to the doctor or to the nearby grocery store, may no longer present insurmountable hurdles for those who currently rely on others.

However, for these benefits to be realized, we must create a regulatory framework that provides companies with the flexibility to test and generate data that will inform the continued development of these vehicles. We must also provide appropriate Government oversight to ensure that this is done in a safe and secure manner.

It's also time for Congress to clarify the roles of both Federal and State government with regard to this industry. Just as Congress ensured uniformity in railroads traversing America, we need to make certain that in the future our cars can take us from one State to another. For America to remain a leader in this field, we need to act.

I want to thank our distinguished panel for being with us today to engage in this extremely important discussion and I look forward to working with my colleagues on this critical issue.

Mr. WALDEN. And so with that, Mr. Chairman, I would yield to the gentleman from Michigan, Mr. Upton.

Mr. UPTON. Well, thank you, Mr. Chairman. I just want to say forget about the Jetsons. The Jetsons are here, and as all of us drive, as we commute back to our districts in our home States, for me, Michigan, and we drive hundreds of miles often every day that we are there crisscrossing our district, we see other drivers. We see other drivers texting and using their phones and we see them weave and get sleepy.

And just going to Detroit yesterday morning, I think I saw three trucks that weaved into my lane, trying to cross. This morning it took me more than an hour to get 7 miles, because of a broken-down car on the 14th Street bridge, another little accident on the GW Parkway, and took my best shortcut, that I am not going to unveil now so that other people don't use it.

But, you know, it took me, I think, 20 minutes to get from Southwest Airlines to American, just going through that arrival part of DCA, trying to get here and avoid some of that.

This technology is going to save a lot of lives. It is going to save a lot of accidents. And years from now, we are going to wonder how was it that America let 35,000 people die on the roads in 2016, and maybe 40,000 this year.

We are at the cutting edge and we need to do it right. We need to do it in a bipartisan way and I welcome the participation of all members of this committee as we try to figure this thing out right.

Because at the end of the day, we are going to save a lot of lives. We are going to save a lot of casualty losses, as well, and it won't take us an hour to get 7 miles back and forth to the office.

I yield back.

Mr. LATTA. Thank you very much. The gentleman yields back.

At this time, the Chair recognizes for 5 minutes the gentleman from New Jersey, the ranking member of the full committee.

OPENING STATEMENT OF HON. FRANK PALLONE, JR., A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW JERSEY

Mr. PALLONE. Thank you, Mr. Chairman.

This subcommittee has been reviewing automated vehicle technology for some time. As we have heard, there are a number of potential benefits both for safety and mobility in the deployment of self-driving cars.

There are also challenges to the deployment such as increased cyber security and privacy exposure risks and safety issues regarding the interaction between human operated and computer operated vehicles.

We all share the goal of promoting the safest possible transportation options. Before us today are 14 separate legislative bills that deal with some of the deployment issues.

I support efforts to help get new technology advances on the roads faster. But we must review each bill through our safety lens.

Only if we keep safety first as our mantra can we get these initiatives to a place where they are ready to become law.

Although the minority was not involved in the development of these 14 bills, I would like to hold you, Mr. Chairman, to your commitment to work to make this a bipartisan effort. My goal is crafting a single bipartisan bill that all members can support.

Right now there is some challenges to getting there, starting with the leadership vacuum at the National Highway Traffic Safety Administration. We should not be moving bills out of committee before we hear from the administration about how the bills would or could be implemented. And yet, once again, we have nobody here today to testify from the administration.

The little we have heard from NHTSA is troubling. The president's budget estimate submitted to Congress this spring show NHTSA focusing on deregulatory actions that are in direct conflict with what Congress required it to do.

Despite congressional mandates, NHTSA wants to stop important safety laws. Inexcusably, the agency is resisting critical safety measures designed to ensure blind pedestrians know a quiet car is nearby or that parents or grandparents do not unintentionally back over their little children.

While the bills before us deal with a number of industry requests such as increases to the current exemption limit or how FOIA requests are handled, there are no directions to NHTSA.

NHTSA must have an active role for self-driving cars to be successfully deployed on our roads. There also is not direction on the issues of cybersecurity, data security, or privacy.

As we look forward to this new world of self-driving cars, we must also ensure that we promote safety which includes ensuring NHTSA fulfills its responsibilities both in the emerging area as well as with human-driven cars and we can't focus on the future at the expense of today.

As Ranking Member Schakowsky pointed out, a number of things can be done right now to make traditional cars safe. Most of the auto industry have committed to making automatic emergency braking standard in all cars.

This is a technology that we know promotes safety and some automakers have already met that commitment. But others are delaying such action. When we know a technology makes people safer, it should be put into all cars as quickly as possible.

In addition, the legislation we discuss now should not be the end of the conversation. One recurring theme throughout the subcommittee's disrupter series is that technology is advancing extremely quickly.

Today's new technology could be obsolete by next year. Self-driving vehicle technology is very much in the development phase and it is almost impossible to foresee all the issues that may arise.

So we can't allow the actions we take now to stop us from addressing new issues that come up later or from revisiting some issues that may change in the future. So in my opinion, this is a big moment for us.

Automated vehicles have the potential to change everything—how we move, what communities look like, how we interact with each other, for example, and we need to be sure that we get this right and that safety is the first priority.

[The prepared statement of Mr. Pallone follows:]

PREPARED STATEMENT OF HON. FRANK PALLONE, JR.

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Before us today are 14 separate legislative bills that deal with some of the deployment issues. I support efforts that help get new technological advances on the roads faster, but we must review each bill through our safety lens. Only if we keep "safety first" as our mantra can we get these initiatives to a place where they are ready to become law.

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While the bills before us deal with a number of industry requests, such as increases to the current exemptions limit or how FOIA requests are handled, there are no directions to NHTSA. NHTSA must have an active role for self-driving cars to be successfully deployed on our roads. There also is no direction on the issues of cybersecurity, data security, or privacy.

As we look forward to this new world of self-driving cars, we must also ensure that we promote safety, which includes ensuring NHTSA fulfills its responsibilities both in this emerging area as well as with human-driven cars.

We cannot focus on the future at the expense of today. As Ranking Member Schakowsky pointed out, a number of things can be done right now to make traditional cars safer. Most of the auto industry have committed to making automatic emergency braking standard in all cars. This is a technology that we know promotes

safety, and some automakers have already met that commitment, butut others are delaying such action. When we know a technology makes people safer, it should be put into all cars as quickly as possible.

In addition, the legislation we discuss now should not be the end of the conversation. One recurring theme throughout this subcommittee's disruptor series is that technology is advancing extremely quickly. Today's new technology could be obsolete by next year. Self-driving vehicle technology is very much in the development phase, and it's almost impossible to foresee all the issues that may arise. So we can't allow the actions we take now to stop us from addressing new issues that come up later or from revisiting some issues that may change in the future.

This is a big moment for us. Automated vehicles have the potential to change everything: how we move, what communities look like, how we interact with each other. We need to be sure that we get this right and that safety is the first priority.

Mr. PALLONE. And I would like to yield the balance of the time to Ms. Matsui.

Ms. MATSUI. Thank you very much, Ranking Member Pallone, for yielding me time.

I would like to echo the ranking member. Without sufficient resources, NHTSA won't be able to facilitate the safe and speedy adoption of autonomous vehicles.

We all share the same goal: safely getting this lifesaving technology on the road. That is why I am disappointed with the process so far on today's legislation.

We ought to be working together on bipartisan comprehensive legislation rather than these piecemeal bills and these bills don't do enough.

California has been a leader in envisioning a pathway for the safe testing and deployment of AVs. If we are going to contemplate undoing this progress we ought to be focuses on giving NHTSA the tools to fill the void.

Autonomous vehicles will be hear before we know it and I stand ready to work with my colleagues on both sides of the aisle to put in place a strong framework that includes the right regulatory safeguards while allowing flexibility for innovation.

Thank you very much, and I yield back.

Mr. LATTA. The gentlelady yields back the balance of the time, and that will now conclude the Member opening statements.

The Chair would like to remind Members that, pursuant to committee rules, all Members' opening statements will be made part of the record.

We want to thank our witnesses for being with us today and taking time to testify before the subcommittee. Today's witnesses will have the opportunity to give opening statements followed by a round of questions from the Members.

Our panelists for today's hearing will include Mr. Mitch Bainwol, the president and CEO at the Alliance of Automobile Manufacturers; the Honorable David Strickland, counsel for Self-Driving Coalition for Safer Streets and partner at Venable; Mr. Will Wallace, policy analyst at Consumers Union; Mr. Alan Morrison, Lerner Family Associate Dean for Public Interest and Public Service Law at the George Washington University of Law School; Mr. Tim Day, senior vice president for Chamber Technology Engagement Center at the U.S. Chamber of Commerce; and John Bozzella, president and CEO of Global Automakers.

We appreciate you all being here today. We are going to start with Mr. Bainwol, and you will be recognized for 5 minutes, and

if you would just pull that mic up close to you and turn it on you will see when your time is about ready to expire by the lights. But thank you very much for being here, and the mic is yours.

Thank you.

STATEMENTS OF MITCH BAINWOL, PRESIDENT AND CHIEF EXECUTIVE OFFICER, ALLIANCE OF AUTOMOBILE MANUFACTURERS; DAVID L. STRICKLAND, COUNSEL, SELF–DRIVING COALITION FOR SAFER STREETS, AND PARTNER, VENABLE LLP; WILLIAM C. WALLACE, POLICY ANALYST, CONSUMERS UNION; ALAN B. MORRISON, LERNER FAMILY ASSOCIATE DEAN FOR PUBLIC INTEREST AND PUBLIC SERVICE LAW, GEORGE WASHINGTON UNIVERSITY LAW SCHOOL; TIM DAY, SENIOR VICE PRESIDENT, CHAMBER TECHNOLOGY ENGAGEMENT CENTER, U.S. CHAMBER OF COMMERCE; AND JOHN BOZZELLA, PRESIDENT AND CHIEF EXECUTIVE OFFICER, ASSOCIATION OF GLOBAL AUTOMAKERS

STATEMENT OF MITCH BAINWOL

Mr. BAINWOL. Thank you, sir.

Chairman Latta, Ranking Member Schakowsky, Chairman Walden, Ranking Member Pallone, Mr. Upton, members of the committee, I am Mitch Bainwol from the Alliance of Automobile Manufacturers.

We represent 12 automakers. We are kind of the umbrella group. We have the Detroit Three. We have major manufacturers in Europe and three Japanese manufacturers—Toyota, Mazda, and Mitsubishi. I am really pleased to be here today. Your leadership moving this issue is critical.

Rather than reading this statement, I am going to run through a quick slide deck—11 slides in about 4 and a half minutes—so bear with me.

As we talk about the future—next slide—I think it is instructive to go back to 1961. I think it was 61 years ago tomorrow that Eisenhower signed the bill that created the highway system.

That, obviously, was a critical assertion of Federal leadership. Ike said, our unity as a nation is sustained by free communication of thought and by easy transportation of people and goods. That was true then and it is true today.

Ten years later—next slide—LBJ signed the Highway Act and really triggered an enormous Federal focus on safety. It was a remarkable success.

Then public works chairman George Fallon said, this bill continues the policy of meaningful cooperation between the States and the Federal Government on highway matters.

It was a firm step forward in the effort to save lives, talking about a theme of Federal and State roles.

Next slide. This is really kind of the critical data slide. This shows 1949 to 2016 the fatalities on the roads. The gray line, which is faint, is the absolute number of fatalities and you can see it reached just over 50,000 in the '70s and is now roughly about 40,000.

The green line is the line really to focus on. That is fatalities by VMT, vehicle miles travelled, and what you see is a phenomenal success story.

We are not without concern about the task that remains. The last 2 years there is been a tick-up, and that is concerning. But the trend line over the 70-year period really is a powerful one.

Next slide. That was the basis of the recognition by CDC that motor vehicle safety was one of the 10 great public health achievements of the century.

So this is, I think, a statement—go to the next slide—that the Safety Act fundamentally works and the magic or the genius of the Safety Act is this scale and the scale—what we are trying to do is optimize the capacity to innovate and we do that with self-certification and protection of consumers, and that is a very, very crucial balance to achieve and we believe the Safety Act and the facts of the last 70 years demonstrate that the right balance has been struck.

I would note that NHTSA has a huge backstop in terms of governing behavior—a strong defect authority, information-gathering authority—so it really is a powerful tool to govern behavior.

You also have liability. You have reputational issues that condition behavior. The next slide drills down a bit on the 35,000 lives lost in 2015 and what you see is at the very tip of the inverted pyramid you have about 1 percent, really less than 1 percent, that relates to the vehicle itself.

We need to get that 1 percent down as far as humanly possible. But the magic of what you are doing today is that you're going to touch the 99 percent that is out there that we can make a difference on working together.

Next slide. So there are clear hurdles here. We have got, you know, Government hurdles in terms of how Government manages to deal with the pace of innovation.

We have got consumer acceptance issues, data risk, dislocation, technology itself—all the things that the opening statements have highlighted.

The benefit stream is enormous. We have talked mostly about lives that have sustained injuries, access for the disabled, enhanced quality of life, less carbon emissions, more fuel efficiency, faster travel, more productive commerce, more flexible space utilization. The prize at the end of the rainbow here is enormous.

So let's look at what countries are doing around—around the world and what you see is countries are nationalizing their frameworks for self-driving.

That is what's going on globally, and there is a picture at the bottom of the Queen. She had a statement in May just a month ago, where even the Queen is getting into the act and is leading to the future.

So this is the global context of—that defines the world in which you all are operating. And if we look at the next slide to the U.S., the U.S. is moving in a profoundly different direction.

So rather than nationalizing our framework what we have been doing is establishing a patchwork and whether 70 or 80 bills in the last year, it is a ton of activity.

Not all of it is bad. Some of the State work is prudent and helpful. But when you have a patchwork it slows down innovation and that is a huge challenge.

So the draft bills, we recognize, are a beginning and we are heartened by the call for bipartisan action and we are hopeful that a bipartisan bill can emerge.

But we think it is a really good start. By increasing the number of vehicles eligible for temporary exemptions, the draft stimulates the generation of data that is necessary for later FMVSS.

It provides the market incentive to drive the investment of industry research that ultimately will save so many lives and it enhances U.S. competitiveness in this space.

The uniform national framework will accelerate testing and deployment and by adopting a forward-leaning approach you send a signal to States, to cities, and to the public that the future is worth accelerating.

So I am down to my last slide and I am a little over. The point here is that this is a journey we are going to be on for a while. Moody's projects that AVs will not be ubiquitous until 2055.

Think of it: 1956, Eisenhower with the interstate highway system; 2055, nearly a hundred years later, ubiquity with AVs. It is a century of profound change for mobility. This committee has an opportunity to take the next great step to save lives and improve commerce and improve quality of life.

This is the right time. We need to assert leadership and the question is ultimately will the technology be developed here in the U.S. or will it be imported.

Thank you very much.

[The prepared statement of Mr. Bainwol follows:]

AUTO ALLIANCE
DRIVING INNOVATION℠

STATEMENT

OF

THE ALLIANCE OF AUTOMOBILE MANUFACTURERS

BEFORE THE:

House Energy and Commerce Committee

Subcommittee on Digital Commerce and Consumer Protection

JUNE 27, 2017

PRESENTED BY:

Mitch Bainwol
President and CEO

Chairman Latta, Ranking Member Schakowsky, and Members of the Digital Commerce and Consumer Protection Subcommittee. Thank you for the opportunity to testify today on self-driving vehicle technology and the role that Congress and this Committee can play to foster important safety improvements and other benefits for the American public. I am here on behalf of twelve iconic manufacturers who produced 80 percent of the cars now on American roads and are investing billions of dollars annually on R&D to improve fuel efficiency and enhance safety. Self-driving technologies have the potential to do both. I would like to say from the outset that the Alliance and its members are deeply appreciative that this Committee has invested so much time on the policy questions relating to self-driving vehicle technologies. We support the concepts outlined in the staff drafts, particularly related to clarifying federal and state roles, as well as expanding exemptions, and we look forward to engaging collaboratively on both sides of the aisle in hopes of passing bipartisan legislation.

As we prepare for the bright future ahead for mobility, it may be instructive to take a step back in time. This week we commemorate President Eisenhower's signing into law the Federal-Aid Highway Act in 1956 – 61 years ago. Today, it seems like a clear decision – obvious even. Six decades ago, however, it was a bold piece of legislation that helped transform our country. It improved the safety of our roadways and the mobility of our fellow citizens. It also grew the U.S economy by facilitating the efficient movement of bulk goods and freight.

A little more than 10 years later, President Johnson signed the Highway Safety Act into law. That legislation was a major Congressional achievement designed to address rising highway fatalities on our roadways. To set the context, in 1966 there were 50,894 fatalities on the roadways, more

than 20 percent higher than today in absolute numbers, despite the fact that the population was far smaller and vehicle miles travelled far fewer. Public Works Chairman George Fallon of Maryland said at the time that the bill reflected a "...policy of meaningful cooperation between the states and the Federal Government on highway matters. I believe it is a firm step forward in the struggle to save lives, and I urge we act with strong voice to put it into effect."

The Safety Act, which created what later became known as the National Highway Traffic Safety Administration (NHTSA) within the U.S. Department of Transportation, provided the agency with broad safety authorities to research, develop, and enforce vehicle safety performance standards. Today, that legislation forms the structural base the agency relies upon for its mission. Importantly, the Act struck a balance between giving the agency wide latitude to create and enforce Federal Motor Vehicle Safety Standards (FMVSS) and remaining flexible enough to allow car makers to self-certify their vehicles. This ensures automakers can continue to innovate and bring new technologies to market. Without question, this balance in the Safety Act helped reduce injuries and fatalities tremendously, even as there has been a near quadrupling of vehicle miles traveled on our nation's roadways since the 1950's. The CDC recognized this remarkable progress in 1999, calling the increase in motor vehicle safety one of the 10 Great Public Health Achievements of the Century.

> "The reduction of the rate of death attributable to motor-vehicle crashes in the United States represents the successful public health response to a great technologic advance of the 20th century--the motorization of America. Six times as many people drive today as in 1925, and the number of motor vehicles in the country has increased 11-fold since then to approximately 215 million (1). The number of miles traveled in motor vehicles is 10 times higher than in the

mid-1920s. Despite this steep increase in motor-vehicle travel, the annual death rate has declined from 18 per 100 million vehicle miles traveled (VMT) in 1925 to 1.7 per 100 million VMT in 1997--a 90% decrease (Figure 1)."[1]

While the safety improvements over recent decades are a tribute to policy and engineering, we are mindful that our work is not done. We are all familiar with government statistics regarding highway fatalities: 35,092 people died in traffic crashes in 2015[2], an increase over 2014. Preliminary results for 2016 project another increase. This is a disturbing upward trend, especially when you consider that the rise in fatalities went beyond VMT growth. We have looked at the early numbers to better understand why this is happening. While it is too early to be conclusive, we know that the higher rate is NOT a function of the car itself. Motor vehicle defects as a cause appear to remain under 1 percent of the challenge. Other factors that did contribute to the higher rate include older cars, older drivers and more losses among pedestrians and motorcyclists. Distraction is a part of the problem, but the challenge is far broader.

The 2015 increase in fatalities was a 7 percent increase from the prior year. The National Highway Traffic Safety Administration's (NHTSA) early estimates for calendar year 2016 suggest a possible 10 percent increase, to about 38,600. While not adjusted for the significant increases of overall miles driven, this is nearly the same number of roadway fatalities that occurred when President Eisenhower signed the Federal-Aid to Highways bill into law. These numbers are concerning and warrant attention, especially since according to a NHTSA crash causation study,

[1] Centers for Disease Control, Ten Great Public Health Achievements in the 20th Century (1900 – 1999), https://www.cdc.gov/mmwr/preview/mmwrhtml/mm4818a1.htm
[2] NHTSA 2015 Quick Facts

94 percent of car crashes are attributable to human behavior or error. These figures are particularly relevant to today's hearing and the transformative role that self-driving technologies can play in possibly reducing overall crashes and fatalities.

I would like to make five broad points to frame the issue and then close with three thoughts for the Committee to consider as it works to craft bipartisan legislation to help spur additional technological and safety advances.

Point 1 – Four trends are merging to dramatically reshape mobility as we know it: increasing automation, connectivity, ride sharing and electrification. These trends are mutually reinforcing but not mutually dependent. The move toward **autonomy** during this past decade has accelerated significantly – with advanced driver assist systems that offer important features like adaptive cruise control and active lane keeping. Effectively, these technologies have a multiplier impact: the more consumers experience driver assist systems, the more excited they become about the prospect of self-driving technologies.

The Alliance has conducted several public opinion surveys that show the generational shift that is emerging with acceptance of these technologies. A sample is provided below:

What best describes your view about so-called autonomous vehicles that drive for you?

	All	M	W	GOP	Dem	18-29	30-39	40-49	50-64	65+	Assists: 0	1	2
Can't wait for this awesome technology	13	16	11	12	15	23	23	9	7	5	10	14	31
Not sure, but keeping an open mind	33	34	31	30	36	39	34	29	30	30	33	32	32
Not sure, but wary of the technology	27	24	31	29	25	19	21	30	35	32	28	29	22
It's a terrible idea	24	24	24	27	21	14	18	30	27	31	26	24	13
Not sure	3												
	-11	-8	-13	-15	-6	+9				-26	-16	-10	+18

Almost two-thirds (62 percent) of those under 29 years of age are open to self-driving technology, including 23 percent who view the technology as "awesome." Only 5 percent of people over 65 years of age think the technology is "awesome," and almost a third believe self-driving technologies are a "terrible idea" – twice the number than the views of those under 29 years of age. But, importantly, experience with driver assists has a profound impact on attitudes. Drivers who have cars with at least two driver assists are dramatically more favorable (63-35) about autonomy than those who have none (43-54). Thus, as these technologies make their way into the national fleet, consumer acceptance will grow materially.

Trend two is **connectivity** – characterized by growing technological capabilities that improve the driving experience, vehicle performance and safety. Trend three is **ride sharing** – and while we think of companies like Uber, Lyft, Car2Go, Chariot, Maven and ReachNow to name a few, there are a huge number of new entrants in this space, all predicated on the idea that in certain instances car sharing and ride hailing is a more efficient use of a high cost asset versus personal ownership. Finally, trend four is **electrification**. Adoption of electrification has been slower

than some predicted and other experts hoped – including in California. However, we expect that as range increases and battery costs fall, EV powertrains will become more competitive with internal combustion engines. Other coming market forces, like self-driving ride share fleets, may further spur electric vehicle deployment. We will see a tipping point – we just do not know exactly when this will occur.

Point 2 – For self-driving technologies, the future is here but will take a while to be fully realized. Few debate where we are headed. However, there is significant debate about the length and even nature of this journey. Keep in mind, even small introductions of self-driving technologies can reduce fatalities and traffic congestion. The first driving automation systems – so called SAE Levels 1 and 2 – are on sale today. Levels 3, 4, and 5 self-driving technologies, or Highly Automated Vehicles (HAVs), are currently being tested, but are not yet available in the market. Level 3 features, such as automated driving in freeway traffic jams, are expected to be introduced soon, perhaps within a year. Level 4 geo-fenced self-driving vehicles that can only be operated by an Automated Driving System will probably begin in the next few years. But, retail sales to consumers of so-called Level 5 vehicles that can operate anywhere a person can drive a conventional vehicle today is unlikely to happen for several more years. Given how much vehicles cost and how long they last – more than 20 percent of cars on the road today were produced before 2000[3] – vehicles equipped with Level 5 systems will likely not be a majority of the fleet for three more decades. Ubiquity is not projected to occur for at least four decades largely due to the fact that over 260 million light duty vehicles are registered in the U.S. It is also difficult

[3] IHS data compiled by the Auto Alliance

to predict the percentage of vehicle miles traveled in personally owned cars versus ride hailing services. But we do know this: change is coming – and it is coming rapidly.

Point 3 – Self-driving vehicles will usher in a mobility era that offers profound social benefits. Self-driving technologies will potentially save thousands of American lives annually, addressing a large portion of roadway fatalities and crashes associated with human error. Cars with self-driving features also offer huge quality of life benefits – access for the disabled and elderly; time saved by being driven rather than driving so the commuting time can be spent on more productive activities; and the increased freedom that comes from quicker trips due to less congestion. Moreover, these technologies offer considerable economic benefits – less congestion, fewer injuries and medical claims, lower fuel costs, increased productivity, and better land use. The impact on cities may well be enormous. New communities and municipalities are eager to modernize their mobility patterns and learn where new mobility options are headed so they can begin the infrastructure build-out that could take a decade to complete. They want to prepare for tomorrow, today. Congress and the House Energy and Commerce Committee in particular has a long history of understanding the need for and benefits related to uniformity as a building block for innovation – just look at the railroad, aviation, telecommunication sectors and the Internet – all of which have spurred tremendous innovation, social benefits and U.S. leadership.

Point 4 – The rate of technological growth is faster than the rate of regulation and also confuses traditional regulatory responsibilities. Self-driving vehicle technologies will generate disruptions and challenges; no transition is ever easy. However, this is a transition this Committee should seek to accelerate, because the societal benefits are clear.

The last NHTSA Administrator, Mark Rosekind, was fond of saying that government must be nimble and flexible because it is difficult for the regulatory process to keep up with the rapid pace of innovation. Furthermore, not enough data is in hand to initiate the rulemaking process to create new standards for self-driving vehicles. If NHTSA were to prematurely set rules today, it would stifle innovation. The foundation of the Federal Automated Vehicles Policy (FAVP) that the Department of Transportation released last September is sound – relying on overarching guidance rather than rigid rules and seeking to clarify the division of responsibilities between states and the federal government. Nevertheless, additional federal leadership is required here.

With conventional vehicles, the states regulate the driver and the federal government regulates the vehicle. This division of responsibility still generally makes sense today for self-driving vehicle technologies, especially since a patchwork of differing safety and performance standards or other impediments from state to state, and even city to city, is a recipe for delayed deployment and realization of the safety and mobility benefits these technologies offer. Take for instance the fact that so far this year, there have been 70 different legislative proposals in 30 states that address self-driving vehicles. As we meet today, the U.S. lacks a critical uniform national framework to advance these technologies as was established before in the development of other key innovations. In fact, as other countries are moving to create uniform national structures, the U.S. has been moving in precisely the opposite direction, and accordingly, risks falling behind in this highly competitive area.

Federal leadership and clear rules of the road are essential, especially to underscore NHTSA's authority to issue nationwide safety and performance regulations for motor vehicles. America is the true innovation leader in this field – at least for now. It is in the national interest to protect that advantage. More importantly, members of the Auto Alliance share the belief that lives could be lost and that safety improvements will be delayed without your help.

Point 5 - The key question this Committee must ask is how to use public policy to optimize the safe deployment of these vehicles and their promise of social good, while continuing to let innovation spur economic growth?

Here are a few thoughts on the draft bills released recently:

1. It is critically important to expand the number and duration of the Federal Motor Vehicle Safety Standard (FMVSS) exemptions that NHTSA can grant under the Safety Act. There are existing safety standards that serve as direct barriers to the deployment of self-driving vehicles. Without providing NHTSA expanded authority to grant exemptions from these standards, traditional auto manufacturers and other developers will not be able to deploy the technology at a scale necessary to collect more robust real-world data to inform future regulatory action. Given the lengthy rulemaking process, NHTSA should also initiate rulemaking to update these standards to remove the barriers for self-driving vehicles.

   The existing FMVSS for conventional vehicles have served the public well. Because they were intended for vehicles with human drivers, however, they are ill-suited for vehicles with self-driving technologies. Alliance members also believe the process to modernize

conventional vehicle FMVSS for self-driving vehicles could be informed by the data generated from increased exemptions.

2. By providing a uniform national framework to address concerns about the development of a patchwork of conflicting rules and regulations, the draft legislation seeks to better clarify federal versus state regulatory roles to facilitate innovation and the expeditious deployment of life-saving self-driving technologies. This will provide certainty for all stakeholders in this area and ensure that the United States remains the leader in self-driving innovation.

   We support federal clarity that will eliminate impediments to the testing, development, and deployment of self-driving vehicles – particularly any state laws or regulations related to the design or performance of these vehicles. We recognize and continue to support the important role states play in insurance, licensure, registration, and traffic laws and enforcement for such Highly Automated Vehicles.

   Providing federal clarity on rules governing automated motor vehicle design, performance and safety does not mean there will be a vacuum in oversight with respect to the development and deployment of the technology for both automakers and new entrants. As discussed earlier in my testimony, NHTSA has broad enforcement authority under existing statutes and regulations to address current and emerging automated safety technologies. As evidence, look no further than the Enforcement Bulletin for Emerging Technologies that NHTSA published in concert with the FAVP last September. That document, which is still

operative, outlines NHTSA's authorities and how they apply to self-driving technology including software, hardware, sensors, GPS and vehicle electronics. For example, NHTSA recently used its extensive investigatory authorities with an aftermarket self-driving technology company named – Comma.ai – to ensure it was compliant with regulations before the product could be offered for sale.

3. By adopting a forward-leaning approach to the development and deployment of self-driving vehicle technologies, the draft legislation sends a clear signal **that will help foster greater public acceptance**. It also sends a clear and unambiguous signal to states and cities that will help trigger the planning necessary for adjusting to these new technologies.

The fact that we are all here today having this conversation is tremendously encouraging. I would like to reiterate the Alliance's and its members' appreciation of the Committee's work and leadership to date and indicate our eagerness to continue being a collaborative, thoughtful partner. The Alliance and its members look forward to providing constructive feedback on your ideas with a view towards passing critically important bipartisan legislation.

I began my testimony today by referencing the important bills that Presidents Eisenhower and Johnson signed, working with Congress on vital and transformative transportation and mobility policy. Those landmark legislative measures clarified state and federal roles and demonstrated that public policy can literally move a nation, improving safety and mobility in the U.S. for decades. We stand today at our own inflection point in history. I would suggest that this Committee and this Congress faces a similar moment – a chance to drive our nation forward in a

way that will generate enormous social and economic benefits for decades and generations to come. While there are challenges associated with this revolution in mobility, the net potential impact is so powerful that we are wise to push forward.

The decisions this Committee will make later this summer hold the possibility to foster a second great revolution in American mobility and auto safety. Although analysts do not expect self-driving vehicles to be ubiquitous until 2055, we can achieve a remarkable public good when we marry the brilliance of innovation with responsible and forward-leaning public policy.

Thank you and I look forward to answering your questions.

House Energy and Commerce Committee

Subcommittee on Digital Commerce and Consumer Protection

Hearing:

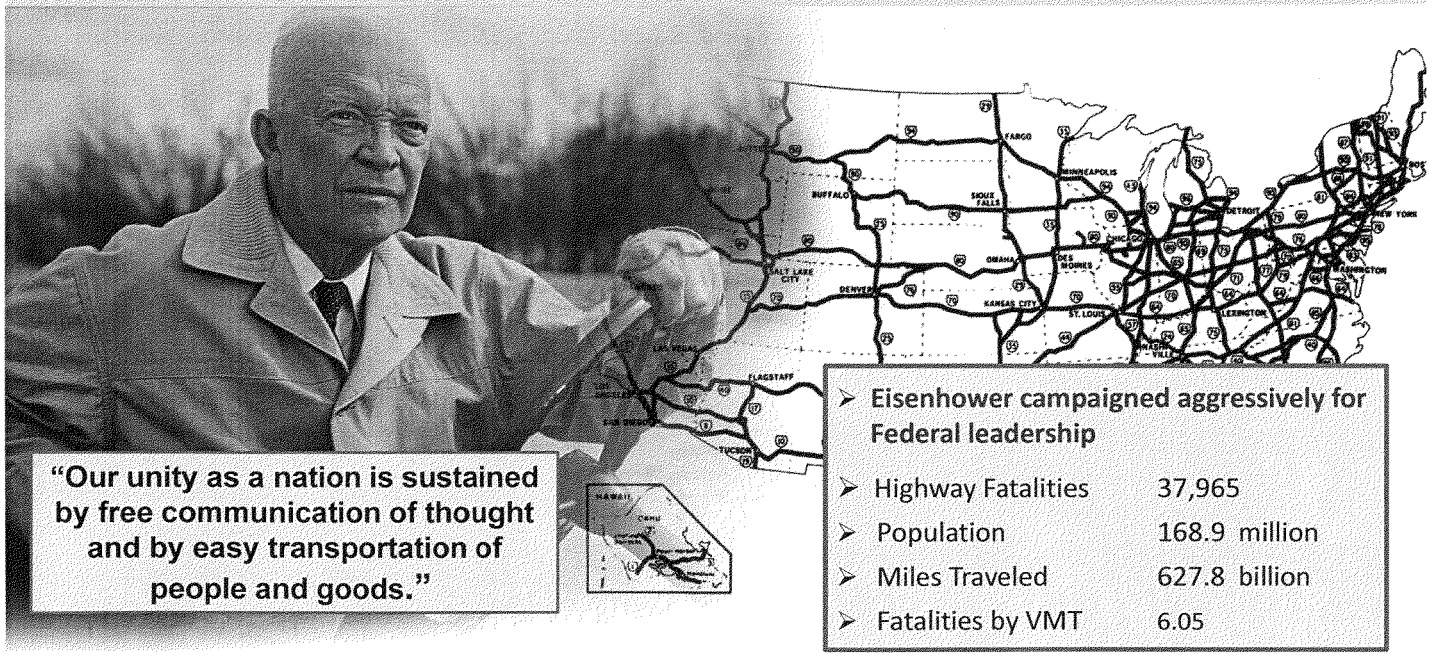
Self-Driving Vehicle Legislation

Testimony by Mitch Bainwol

6/27/2017

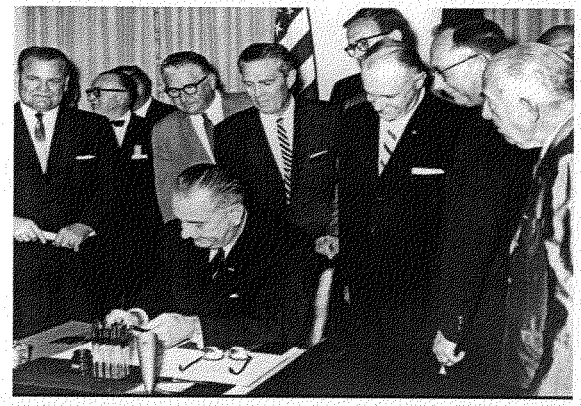
Alliance of Automobile Manufacturers

1956: Interstate Highway System



- **Eisenhower campaigned aggressively for Federal leadership**
- Highway Fatalities 37,965
- Population 168.9 million
- Miles Traveled 627.8 billion
- Fatalities by VMT 6.05

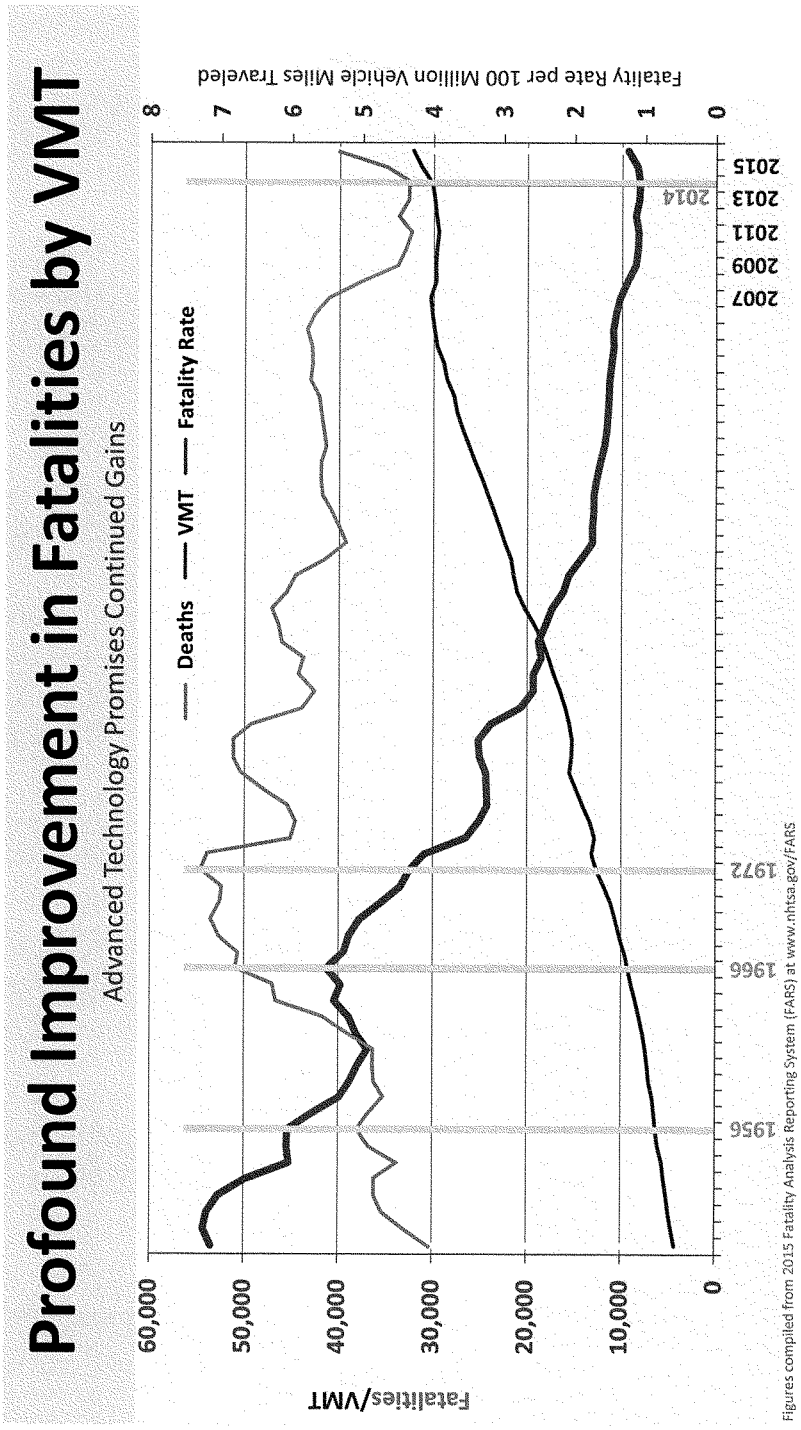
1966: Highway Safety Act



- **LBJ SOTU in '66 proposed Safety Act and creation of the DOT**

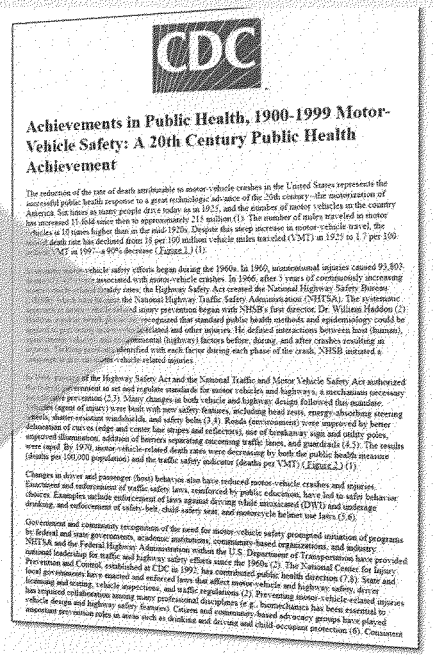
Highway Fatalities	50,894
Population	196.6 million
Miles Traveled	925.9 billion
Fatalities by VMT	5.50

Public Works Chairman George Fallon stated, **"[This bill] continues the policy of meaningful cooperation between the States and the Federal Government on highway matters. I believe it is a firm step forward in the struggle to save lives, and I urge that we act with strong voice to put it into effect."**


Profound Improvement in Fatalities by VMT
Advanced Technology Promises Continued Gains
Deaths
VMT
Fatality Rate
Fatalities/VMT
Fatality Rate per 100 Million Vehicle Miles Traveled
60,000
50,000
40,000
30,000
20,000
10,000
0
8
7
6
5
4
3
2
1
0
1956
1966
1972
2007
2009
2011
2013
2014
2015
Figures compiled from 2015 Fatality Analysis Reporting System (FARS) at www.nhtsa.gov/FARS

10 Great Public Health Achievements

- **The reduction of the rate of death attributable to motor-vehicle crashes in the United States represents the successful public health response to a great technologic advance of the 20th century--the motorization of America.**
- Systematic motor-vehicle safety efforts began during the 1960s.
- In 1966, passage of the Highway Safety Act and the National Traffic and Motor Vehicle Safety Act authorized the federal government to set and regulate standards for motor vehicles and highways
- Changes in driver and passenger (host) behavior also have reduced motor-vehicle crashes and injuries.
- Government and community recognition of the need for motor-vehicle safety prompted initiation of programs by federal and state governments, academic institutions, community-based organizations, and industry.



CDC

Achievements in Public Health, 1900-1999 Motor-Vehicle Safety: A 20th Century Public Health Achievement

The reduction of the rate of death attributable to motor-vehicle crashes in the United States represents the successful public health response to a great technologic advance of the 20th century--the motorization of America. Six times as many people drive today as in 1925, and the number of motor vehicles in the country has increased 13-fold since then to approximately 215 million (1). The number of miles traveled in motor vehicles is 18 times higher than in the mid-1920s. Despite this steep increase in motor-vehicle travel, the overall death rate has declined from 18 per 100 million vehicle miles traveled (VMT) in 1925 to 1.7 per 100 million VMT in 1997--a 90% decrease (Figure 1.) (1).

...motor-vehicle safety efforts began during the 1960s. In 1960, unintentional injuries caused 93,802 ... associated with motor-vehicle crashes. In 1966, after 3 years of continuously increasing ... crash-related fatality rates, the Highway Safety Act created the National Highway Safety Bureau ... which later became the National Highway Traffic Safety Administration (NHTSA). The systematic ... and injury prevention began with NHSB's first director, Dr. William Haddon (2). ... recognized that standard public health methods and epidemiology could be ... to motor-vehicle crashes and other injuries. He defined interactions between host (human), ... environmental (highway) factors before, during, and after crashes resulting in ... identified with each factor during each phase of the crash, NHSB initiated a ... motor-vehicle-related injuries.

... of the Highway Safety Act and the National Traffic and Motor Vehicle Safety Act authorized ... government to set and regulate standards for motor vehicles and highways, a mechanism necessary ... prevention (2,3). Many changes in both vehicle and highway design followed this mandate. ... (agent of injury) were built with new safety features, including head rests, energy-absorbing steering ... shatter-resistant windshields, and safety belts (3,4). Roads (environment) were improved by better ... of curves (edge and center line stripes and reflectors), use of breakaway sign and utility poles, ... illumination, addition of barriers separating oncoming traffic lanes, and guardrails (4,5). The results were rapid. By 1970, motor-vehicle-related death rates were decreasing by both the public health measure (deaths per 100,000 population) and the traffic safety indicator (deaths per VMT) (Figure 2.) (1).

Changes in driver and passenger (host) behavior also have reduced motor-vehicle crashes and injuries. Enactment and enforcement of traffic safety laws, reinforced by public education, have led to safer behavior choices. Examples include enforcement of laws against driving while intoxicated (DWI) and underage drinking, and enforcement of safety-belt, child-safety seat, and motorcycle helmet use laws (5,6).

Government and community recognition of the need for motor-vehicle safety prompted initiation of programs by federal and state governments, academic institutions, consumers-based organizations, and industry. ... and the Federal Highway Administration within the U.S. Department of Transportation have provided ... leadership for traffic and highway safety efforts since the 1960s (2). The National Center for Injury ... and Control, established at CDC in 1992, has contributed public health direction (7,8). State and ... governments have enacted and enforced laws that affect motor-vehicle and highway safety, driver ... and testing, vehicle inspections, and traffic regulations (2). Preventing motor-vehicle-related injuries ... required collaboration among many professional disciplines (e.g., biomechanics has been essential to ... design and highway safety features). Citizen and community-based advocacy groups have played ... pro-active roles in areas such as drinking and driving and child-occupant protection (6). Consistent

Safety Act Effectively Balances Safety Innovations and Consumer Protection

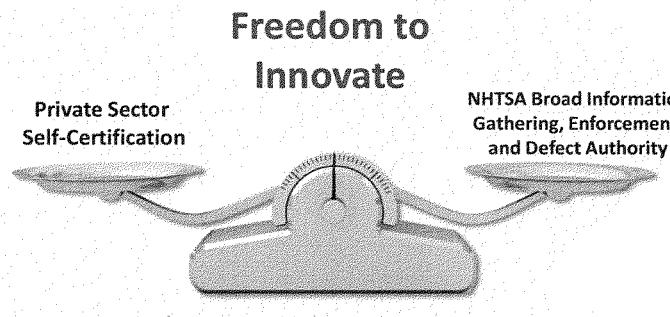
1. **Private sector Self-Certification**

2. **NHTSA retains broad enforcement authority (defect and recall) under the Safety Act both for conventional and highly automated vehicles**

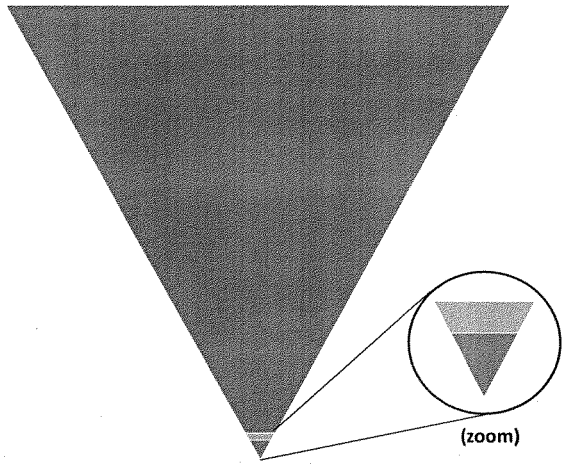
3. **Liability exposure also inhibits premature deployment**

4. **Rule development (FMVSS) is data driven - after extensive objective testing - and LOCKS IN rather than TRIGGERS market innovations**

5. **Enforcement authority and liability both always apply**
   - Whether or not a rule has been issued
   - Whether it is a test or a deployment
   - Whether or not introduction is by temporary exemption



Improve on the 1% - Laser Focus on 99%



35,092: 2015 Total Fatalities from Motor Vehicle Traffic Crashes

96.5% (33,877)
Fatalities Related to Human Error/No Possible Vehicle Defects

1% (353)
Fatalities Related to Motorcycles, Medium-Heavy Duty Trucks and Misc. Vehicles

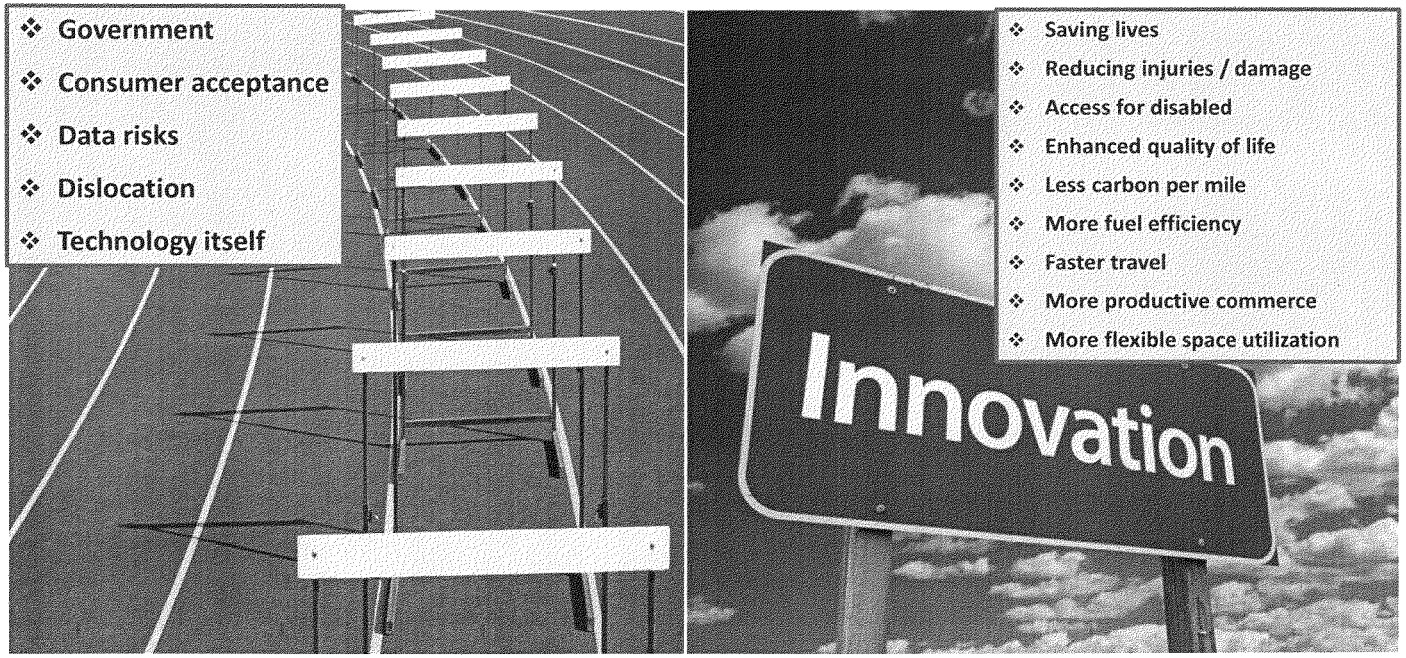
2.5% (862)
Fatalities Related to Possible Defects or Maintenance in Light Duty Vehicles

- 68.18% of fatalities from a vehicle defect were the result of tire maintenance
- 80% of the vehicles in this category are MY 2000-2004, 70% were older than 11.5 years
- 20 fatalities from defects were autos MY 2010 or newer (4 involved an impaired driver)

- More than 2/3 of the 862 resulted from maintenance faults
- Thus less than 1% of fatalities in LDV are defect related
- Huge correlation to age of cars

Source: 2016, National Highway Traffic Safety Administration's (NHTSA) Fatality Analysis Reporting System (FARS).

Clearing Hurdles = Huge Social Benefits



Other Countries Nationalizing Self-Driving Frameworks

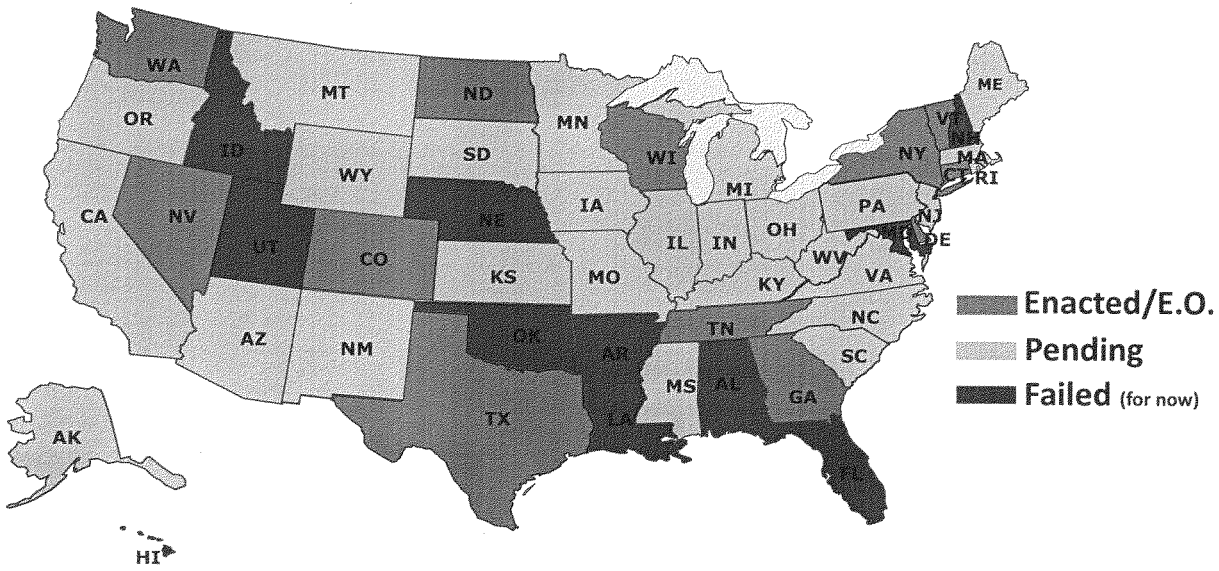
United Kingdom | Germany | Sweden | Japan | South Korea

MOTOR AUTHORITY

Queen paves way for autonomous cars in U.K.

MAY 18, 2016

But the U.S. is Moving in a Different Direction



Draft Bills are Critically Important

- ✓ **By increasing the number of vehicles eligible for temporary exemptions, the draft**
  - *Stimulates the **generation of data** necessary to later develop FMVSS*
  - *Provides the **market incentive** to draw significant investment in related technologies*
  - *Enhances **U.S. competitiveness** in this space*
- ✓ **By providing a uniform national framework to address state patchwork, the draft**
  - *Clarifies roles, **accelerating testing** and deployment*
- ✓ **By adopting a forward leaning approach, the draft**
  - *Sends a clear signal to the American people that will enhance **public acceptance***
  - *Sends a clear signal to **states and cities** that will trigger the planning necessary for adjusting to this transformation*

100 Years: Interstate Highways to AV Ubiquity

Year	Fleet Share
2020	Available
2030	Common
2035	Standard
2045	Majority
2055	Ubiquitous

AV Penetration Projection Source: Moody's

- 61 years ago Eisenhower recognized a moment
- Decisions this committee will make this summer can foster a second great revolution in safe mobility
- Some say full ubiquity is almost 40 years away, but the journey offers increasing benefits each and every year
- Once there, from Eisenhower to Ubiquity – 100 years
- Will America lead – or will innovation be imported?

Mr. LATTA. Well, thank you very much, and the Chair now recognizes Mr. Strickland for 5 minutes.

Thank you very much for being here.

STATEMENT OF DAVID L. STRICKLAND

Mr. STRICKLAND. Mr. Chairman, thank you so much for the opportunity, and Ranking Member Schakowsky, nice to see you again. I am looking forward to working with you on this important legislation.

I want to commend this committee for its efforts in taking a leadership in this important suite of bills. It is the first of its kind to address the major national legislative and policy challenges related to deploying self-driving vehicles and the coalition looks forward to working with this committee as this draft evolves.

My name is David Strickland and I am a partner at Venable LLP. I am testifying here today as counsel to the Self-Driving Coalition for Safer Streets.

The coalition—which members include Ford Motor Company, Lyft, Uber, the Volvo Car Group, and Waymo—is focused on enabling the development and deployment of level 4 and level 5 fully self-driving vehicles.

This cross-section of companies demonstrates the widespread interest in developing this technology across different sectors—technology, automobile, and transportation networking.

Despite their different backgrounds, the companies came together to form the coalition because of their commitment to bring tremendous potential safety benefits of self-driving cars to consumers in the safest and swiftest manner possible.

The coalition believes that fully self-driving cars will play a key role in making our roads safer. The members have noted the importance of safety and the fact that we are going in the wrong direction.

Not only did we lose 35,092 people in 2015, the trend line looks for 2016 it is going to get even higher, and as Ms. Dingell noted that 94 percent of these crashes have an element of human error.

Self-driving vehicles have the ability to, frankly, cover those accidents. All of the variations of human error can be addressed by this technology, which is the reason why we think that it is so important to have this technology tested and deployed as quickly as we possibly can in the most safest manner possible.

Self-driving vehicles also hold the promise to enhance mobility for the disabled and the elderly, reduce congestion and improve productivity.

It would appear that the committee shares many of these goals, as demonstrated through the various bills under discussion today. I would like to take the opportunity to provide some comments and feedback on the discussion draft.

First, we believe the LEAD'R Act is an important step in clarifying the appropriate Federal and State roles and responsibilities when it comes to fully self-driving vehicles.

The Federal Government retains the authority to promulgate and enforce nationally uniform motor vehicle safety standards. We do not believe self-driving cars present a reason to deviate from that well-established precedent.

States should be discouraged from just creating a patchwork of inconsistent laws and regulations relating to such standards and have the potential to stifle this emerging industry.

The LEAD'R Act would more clearly delineate the States continue to retain their traditional role in establishing and maintaining rules of the road, vehicle registration, traffic enforcement, and with respect to insurance while making it clear that it is the Federal Government's exclusive authority to set the standards related to safety, performance, and the design of fully self-driving vehicles.

We have suggestions, and we look forward to working with the committee to strengthen and bolster the technological neutrality of this language.

I also want to highlight the collection of proposals related to the expanding vehicle exemptions to permit new safety features unique to fully self-driving vehicles—more specifically, the PAVE, ROAD, EXEMPT, and MORE Acts.

Today, level 4 and 5 self-driving vehicles are subject to all of the criteria in the Federal safety standards, even though certain decades-old provisions were clearly designed with a human driver in mind.

The numerical and temporal limitations on exemptions under current law present a concrete obstacle to achieve the goal of rapid, safe, and robust deployment necessary to attain the safety and mobility benefits we believe the fully self-driving vehicles promise.

The coalition supports these four bills as they would expand NHTSA's authority to permit a greater number of vehicles to be allowed on the road for testing and deployment of highway automated vehicles and because they would authorize exemptions for two well-intentioned purposes—first, to promote the public adoption and acceptance or facilitate meaningful commercial deployment of a new motor vehicle safety feature system, or two, to promote transportation access to individuals with disabilities.

We think these two new purposes for exemptions, along with the requirement for equivalent safety, strike the right balance to encourage the safe innovation of level 4 and level 5 vehicles.

While we suggest some wording changes such as using the same test for equivalent safety that presently applies to the safety features, we think that this is the right direction in terms of increasing innovation.

While we appreciate the committee's draft legislation all across a number of advisory councils, we believe it also too, making sure we thank the committee for its widespread and inclusion of a number of constituencies of stakeholders in this field that believe will have a great important ability to fuel, I guess, debate and a more thoughtful approach to the committee's work.

Thank you again for the opportunity. I am looking forward to your questions.

[The prepared statement of Mr. Strickland follows:]

U.S. House of Representatives
Committee on Energy and Commerce
Subcommittee on Digital Commerce and Consumer Protection
Tuesday, June 27, 2017

Testimony of:
David L. Strickland
Counsel, Self-Driving Coalition for Safer Streets
Partner, Venable LLP

Chairman Latta, Ranking Member Schakowsky, good morning. It is an honor to appear before you today to discuss the future of fully self-driving cars.

This Subcommittee now stands at the intersection of the digital economy, the internet of things, and consumer safety – all matters we will discuss today. I want to commend the committee for its efforts in developing the self-driving vehicle discussion draft legislation that is the topic of today's hearing. This important suite of bills is the first of its kind to address the major national legislative and policy challenges related to deploying self-driving vehicles, and the Coalition I represent looks forward to working with the committee in refining the draft as we move through the legislative process.

My name is David Strickland and I am a Partner at Venable LLP. I am testifying here today as Counsel to the Self-Driving Coalition for Safer Streets. The Coalition, which was founded in April of last year by Ford Motor Company, Lyft, Uber, the Volvo Car Group, and Waymo (formerly Google's self-driving car project), is focused on enabling the development and deployment of Level 4 and Level 5 fully self-driving vehicles.

This cross-section of companies demonstrates the widespread interest in developing this technology across different sectors—technology, automobile, and transportation networking. Despite their different backgrounds, the companies came together to form the Coalition because of their commitment to bring the tremendous potential safety benefits of self-driving cars to consumers in the safest and swiftest manner possible. As examples of their efforts, Google's self-driving car project completed the world's first fully driverless ride on public roads in Austin in October 2015, Lyft has set itself a public goal that half the rides on its platform will be in a self-driving vehicles by 2021, and Ford intends to have a fully self-driving vehicle "for commercial application in mobility services in 2021."

The Coalition believes fully self-driving vehicles will play a key role in making our roads safer and improving mobility. In 2015, 35,092 Americans died in motor vehicle crashes and 2.44 million were injured. Early estimates from the National Highway Traffic Safety Administration (NHTSA) from the first half of 2016 suggests a 10.4 percent increase in roadway fatalities compared to the same time period last year. Since an estimated 94 percent of all crashes are the result of driver error, fully self-driving vehicles are very likely to significantly reduce fatal traffic crashes because they remove human error from the driving process entirely. Self-driving vehicles also hold the promise to enhance mobility for the disabled and elderly, reduce congestion, and improve productivity.

It would appear that the committee shares many of these goals, as demonstrated through the various bills that are under discussion today. I would like to take this opportunity to provide some comments and feedback on the discussion draft.

First, we believe the LEAD'R Act is an important step in clarifying the appropriate federal and state roles and responsibilities when it comes to fully self-driving vehicles. The federal government retains the authority to promulgate and enforce nationally uniform motor vehicle safety standards. We do not believe self-driving cars present a reason to deviate from that well established precedent. States should be discouraged from creating a patchwork of inconsistent laws and regulations relating to such standards that have the potential to stifle this emerging industry. The LEAD'R Act would more clearly delineate that the states continue to retain their traditional role in establishing and maintaining the rules of the road, vehicle registration, traffic enforcement, and with respect to insurance, while making clear that it is the federal government's exclusive authority to set standards related to the safety, performance, and design of fully self-driving vehicles. We have some suggestions and look forward to working with the Committee to strengthen and bolster the technological neutrality of this language.

I also want to highlight the collection of proposals related to expanding vehicle exemptions to permit new safety features unique to fully self-driving vehicles —more specifically the PAVE, ROAD, EXEMPT, and MORE Acts. Today, Level 4 and Level 5 fully self-driving cars are subject to all of the criteria in the federal safety standards, even though certain decades-old provisions were clearly designed with a human driver in mind. The numerical and temporal limitations on exemptions under current law present a concrete obstacle to achieve the goal of rapid, safe and robust deployment necessary to attain the safety and mobility benefits we believe fully self-driving vehicles promise.

The Coalition supports these four bills as they would expand NHTSA's authority to permit a greater number of vehicles to be allowed on the road for testing and deployment of HAVs, and because they would authorize exemptions for two additional well intentioned purposes: (1) to promote the public adoption and acceptance, or facilitate meaningful commercial deployment of a new motor vehicle safety feature or system, or (2) to promote transportation access to individuals with disabilities. We think these two new purposes for exemptions, along with the requirement for equivalent safety, strike just the right balance to encourage the safety innovation of Level 4 and 5 vehicles. We will suggest some wording changes, such as using the same test for equivalent safety that present law applies to new safety features (see 49 U.S.C.

§30113(b)(3)(B)(ii)).

We appreciate that the Committee's draft legislation creates a number of advisory councils comprised of non-governmental experts to assist the Secretary and NHTSA in their considerations of self-driving vehicles and their societal impacts. As the Secretary and NHTSA endeavor to update the Federal Automated Vehicles Policy, the agency will continue to benefit from the perspective of outside stakeholders, innovators, and members of the public that have expertise in this dynamic new market. We are encouraged by the Committee's recognition of the diverse relevant topics, but we also suggest the Committee consider consolidating the efforts into one advisory council (which could address each specific subject through sub-groups) for greater efficiency and to streamline and coordinate the advice provided.

I want to thank the Subcommittee for its leadership on these important issues. The Coalition looks forward to serving as a resource concerning both technical and policy questions and working with you to make fully self-driving cars a reality.

Mr. LATTA. Thank you very much.

And Mr. Wallace, you are recognized for 5 minutes for your opening statement.

STATEMENT OF WILLIAM C. WALLACE

Mr. WALLACE. Good morning, and thank you for the chance to testify.

At the independent nonprofit Consumer Reports, experts at our auto test center have rigorously evaluated cars that can steer within a lane, adjust speed and brake automatically.

Based on this work, we see the potential for self-driving vehicles to make our roads far safer. There is a smart safe path to realizing this promise that we encourage automakers, regulators and Congress to follow.

Companies and policy makers should set a clear expectation. As highly automated vehicles improve mobility, these cars also must significantly improve safety for their occupants and others who share the road.

Today, we urge the subcommittee to embrace both technological innovation and accountability. Innovation has brought about numerous practical and lifesaving features. But any accelerated deployment of automated vehicle systems should be evidence based and should include sensible and mandatory measures to protect consumers against new hazards that may emerge.

First, with these principles in mind, we make several recommendations that are explained further in our written testimony. The first one is that exemptions from Federal safety standards for highly automated vehicles should be limited to equipment where a vehicle's automated driving system can fully, effectively, and safely replace a human driver's role.

This would be consistent with NHTSA's governing statute. Further, because any vehicle should provide sufficient protection in a crash, no exemption should be granted for crashworthiness or occupant protection.

Congress also should direct NHTSA to define specific criteria that must be followed by both companies and the agency. This could help bring some light to exemptions and make them more data driven which could, in turn, enhance consumer confidence. It also could promote business certainty to define a more specific process for exemptions.

Second, new measures should be in place for vehicles that have level 2 or 3 driving automation which can give consumers a dangerously false sense of security and increase the risk of driver inattention.

Humans have a limited ability to return to driving and monitoring the roadway after having disengaged from those tasks. Accordingly, additional NHTSA research into human-machine interface should be fully funded.

Disclosure to consumers about these vehicles should be improved and NHTSA should take a look at whether it would improve safety to set performance standards for emerging systems and monitor whether the driver is paying attention and is able to take the wheel when alerted.

Third, automakers should make their safety-related data public and share it with regulators in a timely manner. Right now, industry claims of the safety benefits of highly automated vehicles appear to be speculative or based on data held internally. Greater disclosure would help companies build trust in their products, which right now is lacking.

For example, preliminary survey results released by MIT AgeLab in late May indicated that only 13 percent of respondents would be comfortable with a fully autonomous car, down 10 percentage points from the previous year.

Fourth, preemption of State and local authority should be narrowly tailored and limited to areas where NHTSA has set strong Federal safety standards.

It would be inappropriate to displace States' authority to protect their citizens without also having strong Federal safety standards in place.

But if the subcommittee does preempt the States, it should be with a far narrower provision that does not inhibit traditional approaches States have used to protect their citizens.

Fifth, the FTC and NHTSA should be given the authority to jointly set baseline enforceable privacy and security standards for cars. A nationally representative Consumer Reports survey found last month that 70 percent of U.S. adults lack confidence that their personal data is private and safe from being shared without their knowledge and, as multiple Federal agencies have documented, a breach of car systems can come with a risk of deadly consequences.

Consumers should know what data their car is collecting and who has access to this information and should be able to trust that companies are legally obligated to protect their privacy and security.

Sixth, NHTSA's research, enforcement, and other capabilities should be strengthened significantly for both increased funding and authority.

NHTSA remains chronically under resourced and needs expanded funding and personnel as well as a greater practical ability to get unsafe cars off the road quickly.

For the agency to be the kind of watchdog consumers deserve, Congress should give it the authority to take action without delay on defects that presents an imminent hazard as has been proposed in the Vehicle Safety Improvement Act.

In conclusion, we see great safety potential in self-driving cars. But that promise should be realized by following a smart safe path like the one we propose today.

As it continues its work, we stand ready to help the subcommittee ensure that these principles are upheld in the law.

[The prepared statement of Mr. Wallace follows:]

Consumers Union®

POLICY & ACTION FROM
CONSUMER REPORTS

Statement of William C. Wallace, Policy Analyst, Consumers Union
Before the U.S. House of Representatives Committee on Energy and Commerce
Subcommittee on Digital Commerce and Consumer Protection

Hearing on "Self-Driving Vehicle Legislation"
Tuesday, June 27, 2017

Summary

- Self-driving cars have enormous potential to make our roads safer by significantly reducing crashes attributable to driver error. There is a smart, safe path to realizing this promise.

- As highly automated vehicles reach market and improve mobility—including for seniors, underserved populations, and individuals with disabilities—companies and policymakers should set a clear expectation: these cars also must significantly improve safety.

- It is not clear what the actual safety impacts will be as companies extensively introduce automated driving systems to our roads. This stands in contrast with proven advanced active safety systems, such as automatic emergency braking.

- Automotive innovation is essential, and has brought about features with major benefits for consumer safety. But any accelerated deployment should be evidence-based and should include sensible, binding measures to protect consumers against any new hazards.

- Our more detailed recommendations are:

    - Exemptions from federal safety standards for highly automated vehicles should be limited to equipment required exclusively for the driving task which may be fully replaced by automation, and granted only if backed by evidence provided through a publicly defined National Highway Traffic Safety Administration (NHTSA) process. No exemptions should be given for crashworthiness or occupant protection aspects of safety standards under these proposals.

    - Additional research, disclosure, and mitigation measures should be in place to protect consumers in vehicles that have Level 2 or 3 driving automation, which can provide a dangerously false sense of security, increasing the risk of driver inattention or error.

    - Automakers should make their safety-related data public and share it with regulators in a timely manner.

    - Preemption of state and local authority should be narrowly tailored and limited to areas where NHTSA has set strong federal standards.

    - The Federal Trade Commission (FTC) and NHTSA should be given the authority to jointly set baseline, enforceable privacy and security standards.

    - NHTSA's capabilities should be strengthened significantly through increased funding and authority—not just for self-driving cars, but also so it can better save lives and prevent injuries due to chronic problems, like drunk and distracted driving, seatbelt non-use, and automakers' failure to make the best new safety features standard on all vehicles.

- As the Subcommittee crafts legislation, we stand ready to assist in its efforts to ensure auto safety and accountability.

Testimony

Good morning, Chairman Latta, Ranking Member Schakowsky, and members of the Subcommittee. My name is William Wallace. I am the safety policy analyst for Consumers Union, the policy and mobilization arm of Consumer Reports, an independent, nonprofit organization that works side by side with consumers to create a fairer, safer, and healthier world.[1]

At Consumer Reports, we consider it a responsibility and a privilege to work for safer cars. We push for policies that advance safety, and we help consumers make informed choices that help them stay safe on the road, through testing, journalism, survey research, advocacy, and consumer mobilization.

We evaluate safety technologies every day at our Auto Test Center. The experts on our team are methodical and rigorous, testing about 60 vehicles per year and driving them a total of about 900,000 miles annually. They drive each vehicle Consumer Reports rates for 2,000 break-in miles before even starting formal testing, which includes more than 50 tests using state-of-the-art tools.

The safety features we evaluate range from seat belts and the fit of child car seats to driver-assistance technologies, which we have identified in more than a dozen models for sale in the United States. Our testers take cars that can steer within a lane, adjust speed, and brake automatically and assess them thoroughly. As more features hit the market, our testers will be carefully evaluating them for safety, and reporting our findings to consumers.

Looking to the future, we see the potential for self-driving cars to make our roads safer

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[1] As the world's largest independent product-testing organization, Consumer Reports uses its more than 50 labs, auto test center, and survey research center to rate thousands of products and services annually. Founded in 1936, Consumer Reports has over 7 million subscribers to its magazine, website, and other publications.

by significantly reducing crashes attributable to driver error.[2] There is a smart, safe path to realizing this promise, one which we encourage automakers, regulators, and Congress to follow.

As highly automated vehicles reach the market and improve mobility for consumers, including seniors, underserved populations, and people with disabilities, companies and policymakers should set a clear expectation: these cars also must significantly improve safety. This means that they should meet all crashworthiness and occupant protection aspects of Federal Motor Vehicle Safety Standards (FMVSS), while also demonstrating that enhanced driving automation further reduces deaths and injuries resulting from traffic crashes. At present, it is not clear what the actual safety impacts will be as companies extensively introduce automated driving systems to our roads. This stands in contrast with proven advanced active safety systems,[3] such as automatic emergency braking with forward collision warning.

The advent of self-driving vehicles represents the single biggest change in the relationship between cars and their passengers since the invention of the motor vehicle itself. In considering legislation on driving automation, we urge members to embrace both technological ambition and accountability. Automotive innovation is essential, and has brought about numerous features with major benefits for consumer safety. But any accelerated deployment

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[2] In this testimony, "self-driving cars" or "self-driving vehicles" refers to motor vehicles with Level 4 or Level 5 driving automation, as defined by the standards-setting organization SAE International. These levels include only vehicles for which the automated driving system must be capable of performing not just the dynamic driving task but also the fallback function, as well as achieving a minimal risk condition, as defined by SAE International. In other words, the system must perform the driving task even if the human driver does not respond appropriately to a request to intervene. Additionally—and once again in line with definitions established by SAE International—the term "automated driving system" refers to SAE Level 3, 4, or 5 vehicles. Just as the National Highway Traffic Safety Administration (NHTSA) and the discussion drafts refer to them, we use "highly automated vehicles" in this testimony to refer to motor vehicles equipped with an automated driving system. Surface Vehicle Recommended Practice, SAE J3016, Taxonomy and Definitions for Terms Related to Automated Driving Systems, issued January 2014, revised September 2016 (hereinafter, "SAE J3016_201609") . The term "car" refers to any motor vehicle, except a commercial motor vehicle, as those terms are defined in Subtitle VI of Title 49, United States Code.

[3] Per SAE International, "active safety systems" are "vehicle systems that sense and monitor conditions inside and outside the vehicle for the purpose of identifying perceived present and potential dangers to the vehicle, occupants, and/or other road users, and automatically intervene to help avoid or mitigate potential collisions via various methods, including alerts to the driver, vehicle system adjustments, and/or active control of the vehicle subsystems (brakes, throttle, suspension, etc.)." SAE J3016_201609 at 3.

should be evidence-based—requiring manufacturers to demonstrate how highly automated vehicles improve safety—and should include sensible, binding measures to protect consumers against new hazards that may emerge.

With these principles in mind, we make the following more detailed recommendations related to the draft bills that are the subject of the hearing:

- Exemptions from federal safety standards for highly automated vehicles should be limited to equipment required exclusively for the driving task, such as steering, braking, and mirrors, which may be fully replaced by automation, and granted only if backed by evidence provided through a publicly defined National Highway Traffic Safety Administration (NHTSA) process. No exemptions should be given for crashworthiness or occupant protection aspects of federal safety standards under these proposals.
- Additional research, disclosure, and mitigation measures should be in place to protect consumers in vehicles that have Level 2 or 3 driving automation, which can provide a dangerously false sense of security, increasing the risk of driver inattention or error.
- Automakers should make their safety-related data public and share it with regulators in a timely manner.
- Preemption of state and local authority should be narrowly tailored and limited to areas where NHTSA has set strong federal standards.
- The Federal Trade Commission (FTC) and NHTSA should be given the authority to jointly set baseline, enforceable privacy and security standards.
- NHTSA's research, enforcement, and other capabilities should be strengthened significantly through both increased funding and authority.

First, exemptions from federal safety standards for highly automated vehicles should be limited to equipment required exclusively for the driving task, such as steering, braking, and mirrors, which may be fully replaced by automation, and granted only if backed by the evidence provided through a publicly defined NHTSA process. No exemptions should be given for crashworthiness or occupant protection aspects of federal safety standards under these proposals.

Collectively, several of the draft bills would greatly expand the ability of NHTSA to grant exemptions from FMVSS for highly automated vehicles. NHTSA's governing statute requires, among other things, that the agency may grant only those exemptions that are "consistent with the public interest" and with 49 U.S.C. Chapter 301, whose overarching purpose is "to reduce traffic accidents and deaths and injuries resulting from traffic accidents."[4] To comply with these requirements, exemptions should be limited to equipment where the sensors or actuators of a vehicle's automated driving system can fully, effectively, and safely replace a human driver's observations or actions related to a particular driving task or FMVSS. Only under such circumstances could the vehicle's manufacturer show that it is not necessary for the vehicle to meet a federal performance standard for a part of the car has been replaced because the human driver never needs to use it.[5] Because a vehicle should provide crash protection regardless of whether it is driven by a human driver or automated system—and because exemptions must be consistent with the public interest—no exemptions should be provided for equipment required for crashworthiness or occupant protection.

In the current versions of the draft bills, it is unclear what statistics or analyses support

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[4] 49 U.S.C. §§ 30101 and 30113.

[5] For this reason, we are skeptical that there are any appropriate automation-related FMVSS exemptions that could be granted to vehicles with driving automation systems of only Level 3 or lower, since these cars require fallback performance by a human driver.

the dramatic expansion of exemptions available for highly automated vehicles. In particular, no specific safety-related justification has been presented for increasing the maximum annual number of a manufacturer's exempted vehicles from 2,500 to 100,000, for increasing the time period of exemptions from two years to five years, or for determining that it is necessarily consistent with motor vehicle safety and the public interest for NHTSA to grant exemptions with the goal to "promote the public adoption and acceptance or facilitate meaningful commercial deployment of a new motor vehicle safety feature or system."

To determine appropriate statistical backing and whether exemptions truly are justified by the body of the evidence, Congress should direct NHTSA to define a specific process and criteria for granting exemptions using official notice-and-comment procedure. This process and criteria should be followed by manufacturers in seeking exemptions, and by the agency in determining whether to grant them. Asking NHTSA to develop a formalized process would not only make the agency's review of exemptions more robust, but also ensure that highly automated vehicles only receive exemptions from FMVSS appropriately, when they would not risk the protection to consumers that the relevant standards are intended to provide. Such a process likely also would enhance consumer confidence in the safety of any exempted vehicles, and promote business certainty compared to an exemption process that operates entirely on a case-by-case basis.

Second, additional research, disclosure, and mitigation measures should be in place to protect consumers in vehicles that have Level 2 or 3 driving automation, which can provide a dangerously false sense of security, increasing the risk of driver inattention or error. Based on Consumer Reports' first-hand experience testing cars with advanced driver-

assistance systems, we are very concerned that the significant potential for driver confusion over automated driving system capabilities will lead to crashes, particularly of cars with the SAE International Level 2 and Level 3 driving automation systems whose capabilities can most readily be overstated by the automaker or overestimated by the driver. In these vehicles, it may seem to consumers that the car can drive itself, when in reality these consumers need to be prepared to take over the controls at a moment's notice, always keeping their eyes on the road and their hands on the wheel. By contrast, Level 4 and 5 vehicles must perform the driving task even if the human driver does not respond appropriately to a request to intervene.

In Level 2 and 3 vehicles, we are particularly concerned about safety issues related to human-machine interface (HMI), which is the combination of hardware and software that allows a human to interact with a machine to perform a task.[6] NHTSA, too, has taken seriously the need to better understand how HMI factors affect safety. The agency has noted that drivers' ability to return to the task of monitoring and driving is limited by humans' capacity for staying alert and re-engaging after having disengaged their attention, and that it may be appropriate for companies to consider incorporating driver engagement and responsiveness monitoring in the vehicles and stepping up consumer education and training related to HMI factors.[7] We agree with these recommendations; however, we understand that the agency proposed significant additional research into HMI that has yet to be funded.[8] This research is an urgent necessity for NHTSA so that it can better understand HMI-related safety issues and propose steps necessary to protect safety—including any possible performance requirements for driver monitoring. We urge the

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[6] NHTSA, Federal Automated Vehicles Policy at 84 (Sept. 20, 2016) (online at one.nhtsa.gov/nhtsa/av/pdf/Federal_Automated_Vehicles_Policy.pdf).

[7] *Id.* at 22-24.

[8] *See, e.g.*, NHTSA, *Budget Estimates – Fiscal Year 2017* (Feb. 2016) (online at www.nhtsa.gov/staticfiles/administration/pdf/Budgets/FY2017-NHTSA_CBJ_FINAL_02_2016.pdf).

Subcommittee to push for additional funds for this research, and to direct NHTSA to seek preventive solutions.

We also urge the Subcommittee to improve disclosure regarding vehicles with Level 2 automated driving systems. One of the draft bills, the DECAL Act, is a sensible proposal that would help prospective buyers better understand highly automated vehicles as long as the information provided on the Monroney label clearly and simply explains the car's capabilities. This bill's disclosure coverage should be extended to Level 2 vehicles so that consumers interested in those cars—which are becoming increasingly available—can readily understand what types of driving tasks those cars are capable of doing, and what they are not capable of doing.

Third, automakers should make their safety-related data public and share it with regulators in a timely manner. Right now, auto industry claims of the safety benefits of highly automated vehicles appear to be speculative or based on data held internally by the companies. Regulators and consumers should know the basis that companies use to determine: (1) that an automated driving system is safe; and (2) that it can provide added safety benefits—especially if any exemptions to FMVSS are to be granted.

This kind of disclosure, and process, would help companies build trust in their products, which right now is lacking, according to recent research by MIT and others. For example, preliminary survey results released by MIT AgeLab in late May indicated that only 13% of respondents would be comfortable with a fully autonomous car, which represented more than a ten percentage point drop from a similar survey the previous year. The researchers pointed out

that the declining trust in automation was particularly notable among younger respondents.[9]

One possible mechanism for the public release of safety information could come through companies' submissions to NHTSA of safety assessment letters, which represent a key component of the agency's September 2016 Federal Automated Vehicles Policy guidance. Under that guidance, the letters represent one of the primary ways for NHTSA and the public to assess how entities developing and testing highly automated vehicles are addressing safety.[10] However, at the time this guidance was released, we were concerned that companies would choose to submit only the bare minimum of information to NHTSA—which would be of little use to consumers and would not necessarily provide the agency with the robust data it needs to independently assess the safety of highly automated vehicles.[11] We encouraged the agency to ensure sufficiently robust responses and prevent entities from simply "checking the boxes." As current leaders at the Department of Transportation consider how to proceed with the Federal Automated Vehicles Policy, we urge Congress to prioritize legislative provisions that would help NHTSA receive and make public all of the information needed to protect consumers and provide transparency about the basis for automaker claims and NHTSA decisions.

Additionally, we encourage caution on what information related to highly automated vehicles must be kept confidential by NHTSA. While NHTSA certainly should protect true trade secrets, as well as personally identifiable information, we urge members to ensure that provisions on the treatment of confidential business information do not inhibit the release of information that could keep consumers safe from a hazard that may emerge in an automated driving system.

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[9] H. Abraham, et al., "Consumer Interest in Automation: Preliminary Observations Exploring a Year's Change" at 6 (Figure 4), White Paper (2017-2), Massachusetts Institute of Technology, AgeLab (May 25, 2017) (online at agelab.mit.edu/sites/default/files/MIT%20-%20NEMPA%20White%20Paper%20FINAL.pdf).

[10] NHTSA, Federal Automated Vehicles Policy at 15-16, *supra*.

[11] The NHTSA guidance asks entities that create automated driving systems to show how they have accounted for a number of key factors inherent to the safety of these systems, but does not currently specify what level of detail the entities should include or what additional data should be submitted to the agency. *Id.*

Fourth, preemption of state and local authority should be narrowly tailored and limited to areas where NHTSA has set strong federal standards. While it is appropriate to clearly delineate federal and state roles in regulating automated vehicles, we caution against going too far in the name of avoiding a "patchwork." It would be inappropriate to preempt states' authority to protect their citizens without strong federal safety standards in place. However, states that do not have the technical expertise of NHTSA should certainly consult extensively with the agency.

If the Subcommittee does advance legislation to preempt the states, which we do not support, we would at the very least urge members to narrow the provision substantially so that it does not prevent states from protecting their citizens in ways states traditionally have done. For instance, in keeping with states' traditional role overseeing whether a vehicle's operation is safe enough for public roads, we have called for states nationwide to prohibit the operation of vehicles' automated driving systems if needed equipment such as sensors or critical safety control systems have been significantly damaged and not repaired. It is unclear, from the extremely broad language of the preemption provision in the current draft of the LEAD'R Act, whether laws such as these could take effect under that bill.

Fifth, the FTC and NHTSA should be given the authority to jointly set baseline, enforceable privacy and security standards for cars. Motor vehicles are increasingly networked, with today's cars having upward of 70 to 100 electronic control units and potentially containing as much as 100 million lines of software code—significantly more than a new

passenger airplane.[12] Further, motor vehicles are increasingly able to send and receive information via cellular, wireless internet, short-range, and other communications technologies. Given consumers' understandable concerns over the privacy of their data,[13] and the seriousness of vehicle data security risks,[14] lawmakers should direct the FTC and NHTSA to jointly develop binding minimum privacy and data security standards for manufacturers of vehicles and equipment.

Today's cars can pose privacy issues and security vulnerabilities just as a computer or a mobile device can.[15] Consumers have deep concerns about how their information is collected and used, with a nationally representative Consumer Reports survey finding last month that 70% of U.S. adults lack confidence that their personal data is private and safe from distribution without their knowledge.[16] We also have found that large percentages of Americans act on their concerns, taking specific steps to prevent their information from security breaches.[17] Moreover, unlike some connected products, a breach of safety-critical vehicle systems comes with serious

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[12] Government Accountability Office, "Vehicle Cybersecurity: DOT and Industry Have Efforts Under Way, but DOT Needs to Define Its Role in Responding to a Real-World Attack" at 7-8 (Mar. 2016) (online at www.gao.gov/assets/680/676064.pdf) (GAO-16-350).

[13] *See, e.g.*, "Americans Want More Say in the Privacy of Personal Data," Consumer Reports (May 18, 2017) (online at www.consumerreports.org/privacy/americans-want-more-say-in-privacy-of-personal-data).

[14] *See, e.g.*, GAO-16-350, *supra;* Federal Bureau of Investigation, Department of Transportation, and NHTSA, "Motor Vehicles Increasingly Vulnerable to Remote Exploits" (Mar. 17, 2016) (online at www.ic3.gov/media/2016/160317.aspx); Staff of U.S. Sen. Edward J. Markey, *Tracking & Hacking: Security and Privacy Gaps Put American Drivers at Risk* (Feb. 9, 2015) (online at www.markey.senate.gov/imo/media/doc/2015-02-06_MarkeyReport-Tracking_Hacking_CarSecurity%202.pdf.

[15] In March 2017, Consumer Reports announced the launch of a collaborative effort to create a digital privacy and security standard for consumers. The standard, available at TheDigitalStandard.org, will help guide companies in the design of mobile and internet-connected products and services, including cars, and empower consumers by enabling independent testing and reporting on whether products protect the privacy and security of their personal data. "Consumer Reports to Begin Evaluating Products, Services for Privacy and Data Security," Consumer Reports (Mar. 6, 2017) (online at www.consumerreports.org/privacy/consumer-reports-to-begin-evaluating-products-services-for-privacy-and-data-security).

[16] "Americans Want More Say in the Privacy of Personal Data," Consumer Reports, *supra; see also, e.g.*, "Are You Scared Your Future Self-Driving Car Will Get Hacked," Fast Company (Feb. 22, 2017) (online at www.fastcompany.com/3068051/are-you-scared-your-future-self-driving-car-will-get-hacked).

[17] Consumer Reports, "Consumer Reports Takes On Privacy, Recommends 66 Ways to Prevent Hackers and Companies From Capturing Your Data" (release) (Sept. 20, 2016) (online at www.consumerreports.org/media-room/press-releases/2016/09/onsumer-reports-takes-on-privacy--recommends-66-ways-to-prevent-).

risks that can be associated with life-or-death consequences.[18] Appropriately, NHTSA has recognized the protection of data security as a critical element of motor vehicle safety.

Consumers should be able to know what data their car is collecting and transmitting, and who has access to this information. They should be able to trust that companies are legally obligated to protect their privacy and the security of their data. This trust is important not just for consumers themselves, but also for the broader acceptance and successful deployment of active safety and automated driving systems across the marketplace. Therefore, consumer privacy and data security standards for motor vehicles are too important to be left to voluntary measures alone, and instead, they should be binding and enforceable, and should apply to all motor vehicles, not just highly automated vehicles. At the same time, these standards should allow for appropriate access to safety-related data, including data available beyond an event data recorder, by crash and defect investigators in the event of a crash.

The MEMO Act, one of the draft bills under consideration, proposes to address privacy and security issues by requiring the FTC and NHTSA to enter into a memorandum of understanding on the regulation and oversight of highly automated vehicles with respect to privacy and data security. While we support the Subcommittee's attention to consumer privacy regulation, we disagree with the approach taken in the draft bill. The MEMO Act focuses on limiting overlap and duplication, rather than focusing on which privacy and data security standards would give car consumers the strongest protection and most meaningful choices about their personal data.

We urge the Subcommittee to direct the FTC and NHTSA to work jointly on mandatory rules. The legal authorities of the FTC and NHTSA are separate, with very different purposes,

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[18] *See, e.g.*, "One in Five Vehicle Vulnerabilities are 'Hair on Fire' Critical," Security Ledger (Aug. 11, 2016) (online at securityledger.com/2016/08/one-in-five-vehicle-vulnerabilities-are-hair-on-fire-critical).

and the agencies have different areas of expertise. The agencies should share oversight where appropriate for the oversight of privacy and data security in cars.

Sixth, NHTSA's research, enforcement, and other capabilities should be strengthened significantly through both increased funding and authority. NHTSA remains chronically under-resourced, both in budget and in staffing. So that it can support the safe and responsible advancement of automated technologies, NHTSA needs expanded funding and personnel. The agency already has a backlog of research needed to independently and thoroughly assess the safety of automated driving systems and the manner in which drivers interact with these new features.[19] However, if the draft bills require NHTSA to complete additional tasks without additional funding or personnel, these and other important efforts (such as addressing critical safety issues around behavioral safety risks, crashworthiness, and occupant protection) would likely continue to stall.

With regard to NHTSA's legal authority, the agency made clear in a September 2016 Enforcement Guidance Bulletin that it has the authority to deem reasonably foreseeable automated system risks to be safety-related defects.[20] But the agency's practical ability to get unsafe cars off the road quickly is limited. For the agency to be the kind of watchdog consumers deserve, Congress should give it the authority to take immediate action on defects that present an imminent hazard, or those that substantially increase the likelihood of serious injury or death. The Food and Drug Administration and Consumer Product Safety Commission already possess this type of authority, and it has been included in the proposed Vehicle Safety Improvement Act

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[19] As recently as last year, the agency sought additional funding and staff for this research. *See, e.g.*, NHTSA, *Budget Estimates – Fiscal Year 2017* at 30, *supra.*

[20] NHTSA, *NHTSA Enforcement Guidance Bulletin 2016-02: Safety-Related Defects and Automated Safety Technologies,* 81 Fed. Reg. 65705 (Sept. 23, 2016).

as introduced in each of the past two Congresses.[21] We also previously called for the agency to receive more detailed information from manufacturers in order to create a more useful Early Warning Reporting program, as well as for increased civil fines authority and a criminal penalties provision to be enacted to deter executives from hiding defects.[22]

Finally, while the potential safety benefits of partly and fully self-driving cars are significant, it still will take some time for all vehicles on the road to benefit from the technology. As a result, additional funding, personnel, and authority for NHTSA would enable the agency to more effectively work to save lives and prevent injuries to vehicle occupants, pedestrians, and bicyclists due to chronic problems like drunk and distracted driving, lack of seatbelt use, and the failure of automakers to make the best new safety technologies standard on all of their vehicles.

Lastly, we have several recommendations about additional priority issues. These include:

- **The proposed federal advisory committees should have broader representation, and come with new resources for NHTSA, if they are to be established.** It is appropriate for NHTSA to receive and carefully consider input from key stakeholders on issues related to driving automation and individuals with disabilities, senior citizens, underserved populations, data security, and the sharing of information about on-road testing of vehicles. For each of these issues, the agency also should receive and carefully consider input from safety and consumer representatives as well as local and state

[21] *See, e.g.*, NHTSA, GROW AMERICA Act at 183 (Apr. 7, 2015) (online at www.transportation.gov/sites/dot.gov/files/docs/GROW_AMERICA_Act_1.pdf) and NHTSA, Federal Automated Vehicles Policy at 75, *supra*; H.R. 1181 (114th Cong.).

[22] *See, e.g.*, Testimony of Consumers Union to the U.S. House Committee on Energy and Commerce, Subcommittee on Commerce, Manufacturing, and Trade, "Legislative Hearing on VIN Database and Auto Whistleblower Bills" (Sept. 25, 2015) (online at docs.house.gov/meetings/IF/IF17/20150925/103982/HHRG-114-IF17-Wstate-WallaceW-20150925.pdf).

officials. In addition, because federal advisory committees come with costs and staff commitments, any establishment of such a committee should come with an appropriate amount of additional resources and personnel for NHTSA.

- **If Congress decides to extend the ability to test noncompliant vehicles to entities beyond automakers, it should ensure NHTSA has the authority to determine how, and to what extent, such testing can be carried out safely.** A significant portion of safety innovation in the automotive space comes from suppliers, universities, and others who create new motor vehicle equipment. However, the testing of automated driving systems by those other than motor vehicle manufacturers comes with unique complexities. Accordingly, if Congress is to extend the allowable testing of vehicles not compliant with FMVSS to equipment manufacturers, then it should also direct NHTSA and companies to explain how the equipment will be integrated safely into the broader vehicle system developed by another company.
- **The Subcommittee should consider the future of federal vehicle safety standards.** In addition to crash protection and crash prevention, vehicle safety rules also should account for the process of developing electronic systems. Specifically, given the immense quantity of software and electronics systems in vehicles with some form of driving automation, we urge members to consider the merits of a functional safety standard.[23] NHTSA traditionally has issued standards for individual components, but there is currently no clear way to establish performance standards for software that must be able to work reliably in almost an infinite number of circumstances.

[23] Functional safety is a process to ensure that the system, as a whole, operates correctly and safely in response to inputs, errors, and failures. The Subcommittee could, for instance, direct NHTSA to base a new rule on the existing international voluntary standard for functional safety of electrical and/or electronic systems in production automobiles, ISO 26262.

Conclusion

We see great safety potential in self-driving cars, but that promise will only be realized by following a smart, safe path. Policymakers should set a clear expectation that highly automated vehicles must significantly improve safety, in addition to providing mobility and other benefits to the public. We urge Congress to embrace both technological ambition and accountability, including by requiring sensible, enforceable, evidence-based measures to protect consumers against new hazards that may emerge. As it continues to work on the draft legislation, we stand ready to help the Subcommittee ensure that these principles are upheld in the law.

Mr. LATTA. Thank you very much.

Mr. Morrison, you are recognized for 5 minutes.

STATEMENT OF ALAN B. MORRISON

Mr. MORRISON. Thank you, Mr. Chairman.

My written statement explains the general principles I believe should be applied to this area but now I want to take a lawyer's role and go over the bills that are before this committee.

It is necessary because the other witnesses, neither in their written statements or in their oral statements, have gone through in detail and I think it is very important to understand exactly what kind of major changes these proposed laws would make.

Part of the problem is that each one of these draft bills is a small piece of the problem and they are not all put together in the staff memorandum or anyplace else.

As I read them, these would enact major changes in the laws. There would be less safety and more preemption, and it is all in the name of technological advances, which is wholly unnecessary to full testing, and that is my first point.

There is no law change now to enable NHTSA to get out of the way of testing. There is a specific exemption in the law now, 30112(b)(10), which specifically says that the general prohibition of putting vehicles on the road without approval does not apply and therefore there is nothing standing in the way right now of all these vehicles being tested. The question is what else is going to happen.

Now, I would point out that under my reading of the current preemption statute that States are permitted to regulate testing largely because NHTSA has no rules on testing.

The testing provision makes it not applicable. It doesn't mean that it is complying with the Federal Motor Vehicle Safety Standard.

But what's most significant is that the LEAD'R bill will vastly expand the exemption from State regulation at all. Under current law there has to be a Federal Motor Vehicle Safety Standard in order for there to be preemption.

That has changed under the LEAD'R bill. The LEAD'R bill provides that States cannot do anything unless they are doing something which is identical to what NHTSA has done.

Since NHTSA has done nothing and has no immediate intention of doing nothing, that means that under this bill, no matter how little NHTSA does, the States can't do anything. That's very important and it is a major change in the law, and we are talking only about testing.

Now, the second thing I want to talk about is the exemptions. These exemptions are not necessary for testing. They are necessary for deployment. Deployment means that anyone—you or I or the car rental companies or anyone in the country—can drive one of these vehicles under one of the exemptions. Testing means that only the car companies—the owners, the operators, and the people they contract with who are specially trained—are allowed to do this.

So there is a big difference between deployment and testing and this exemption would apply to deployment. And let me tell you how broad this exemption is.

It would go from 2,500 vehicles a year to 10,000 vehicles in a 12-month period for every single manufacturer of these vehicles and I believe there are 30-something companies.

If my math is right, you multiply 30 times 100,000 per year and you get an idea of how much this exemption is going to allow these vehicles to be on the road with no NHTSA supervision whatsoever.

Moreover, the process by which these exemptions is granted is going to be completely ineffective. The question before the agency will be is there an equivalent level of safety.

That is a very difficult question to answer for vehicles that have never been tested, which have totally new features, which don't have brake pedals, steering wheels, accelerators, which assume that the driver is going to be in the car.

Moreover, what NHTSA is going to be able to do is to say that none of this information that the auto companies are submitting can be seen by State regulators, the public, by members of this committee or anybody else because it is all confidential business information.

Now, that means there is going to be no one guarding the guards. No one's going to be checking to see that what NHTSA does is going to assure the safety of these vehicles.

I want to be clear. I am not opposed to these vehicles. I am not opposed to testing. But we need somebody to look at this material besides just NHTSA and the auto companies. There is a big problem of trust now in this industry and I don't think that the driving public, the pedestrians and everyone else in the world is going to be satisfied by saying it is all OK, NHTSA is taking care of it when we know that it is not doing anything and leaving it to all of the companies that have their own economic interest in doing this.

Now, the bottom line for me is that when you work through the maze, and it is a maze of these rules, there is no requirement for new Federal regulation. None.

Second, there is much greater preemption of State law. Third, there is much broader deployment, not testing exemptions.

Fourth, there is no clear standards for granting the exemption, and fifth, almost total secrecy for the industry in submitting their test data and other information that is so necessary.

So I want to ask this question. Is this what your constituents want? Do you think that this will engender public trust? I don't. I think there is a way forward but these bills are not it.

Thank you very much.

[The prepared statement of Mr. Morrison follows:]

STATEMENT OF ALAN B. MORRISON

BEFORE

COMMITTEE ON ENERGY & COMMERCE

UNITED STATE HOUSE OF REPRESENTATIVES

SUBCOMMITTEE ON DIGITAL COMMERCE AND CONSUMER PROTECTION

ON SELF-DRIVING VEHICLE LEGISLATION

JUNE 27, 2017

Mr. Chairman, Members of the Subcommittee:

I appreciate this opportunity to appear here today to discuss the legal and policy issues related to the testing and eventual deployment of highly automated vehicles (HAVs) also known as driverless cars. I am the Lerner Family Associate Dean for Public Interest & Public Service Law at George Washington University Law School, where I also teach civil procedure and constitutional law. For most of my career I was the director of the Public Citizen Litigation Group, which I co-founded with Ralph Nader in 1972. In that capacity, and continuing to date, I have been involved in a wide range of litigation and related administrative proceedings, including, but by no means limited to, those of the National Highway Traffic Safety Administration (NHTSA), the federal agency charged with assuring vehicle safety in the United States. My work has also involved issues of preemption, which are very much part of the debate over how to assure the safety of driverless cars, while also not unduly standing in the way of innovation. I am submitting a copy of my resume for the record.

Until six months ago, I knew very little about these issues, but then I was asked to organize and moderate a conference on the legal landscape surrounding driverless vehicles. The conference was held on June 14, 2017, and I am submitting a copy of the program with this statement. A video of the day's program is now on the GW Law School website, and it can be

accessed at https://www.law.gwu.edu/driverless-cars-legal-landscape.[1] As my background makes clear, I am not an engineer or a safety expert, nor do I have any detailed knowledge of the specifics of the relevant Federal Motor Vehicle Safety Standards (FMVSS) that NHTSA has issued. However, after working on these issues and running the conference, I think I have a solid understanding of the questions that need to be addressed by policy makers. I would also add that I do not have answers to most of them, although I do have some ideas as to where policymakers should and should not go.

Before turning to the issues relating to self-driving or driverless cars, I want to make a related point: driverless cars will require good roads, with freshly painted lines and fewer potholes and other obstructions. That means more infrastructure funding and continued maintenance. Perhaps it goes without saying, but I will say it anyway. There are many proposals before NHTSA that would enhance the safety of current vehicles (as well as driverless versions) and that are not receiving the attention they deserve. The focus on driverless cars and their potential for saving lives and money is not a green light to abandon all other safety related rules that NHTSA could issue now without any changes in its governing statutes.

If I can deliver one thought to you today, it is that these issues are extremely complicated and implicate interrelated legal, policy, and technical considerations. Significant choices will have to be made, and so simply telling NHTSA to do what is needed to bring on safe driverless cars will not suffice. More specific directions are needed. Let me illustrate.

The industry, regulators, and consumer safety advocates agree that the focus now should be on the testing of these vehicles in real world conditions. To be clear, I define the testing

[1] There are separate videos for each panel and for Ralph Nader's remarks.

phase, and any exemptions from it, to be limited to vehicles being operated (controlled/driven) by employees (agents/contractors) of the manufacturer, but not by the general public or even entities such as Uber & Lyft or car rental companies. Some automated safety features are now being installed in cars sold to the public, but those in vehicles coming within SAE categories 3, 4 & 5 should be regulated as test vehicles phase and should not be available to the public for some time. Some of the draft bills would allow large numbers of vehicles to be deployed outside their testing by manufacturers, and that should not be permitted.

Assuming a properly limited test phase, one question is whether there should be any regulation of the testing phase, or is society willing to allow manufacturers, including but not limited to traditional auto makers, to test these advanced HAVs with no check except the power of NHTSA to recall unsafe vehicles from the highways. As the Committee may know, California has enacted a law requiring its DMV to regulate driverless cars, and its DMV has proposed new more detailed rules for the testing of cars (but not vehicles over 10,000 pounds). Other States, concerned about the safety of their highways, may pass different laws, with different requirements. The proposed California rules make reference to NHTSA guidance and possible exemptions, but it is very unclear how that will operate in practice.

As the Committee is aware, if NTHSA has issued an FMVSS on a given aspect of vehicle safety, states are precluded (preempted) from issuing a different standard. There are no federal standards for many of the features designed for SAE's 3-5, but there are standards – such as those requiring a steering wheel, foot brakes, and an accelerator pedal – that are inconsistent with how vehicles in categories 4 & 5 would be configured. Thus, at the very least, even in the testing phase, NHTSA has to do something if tests are to go forward, as they clearly must so that the public has some assurances regarding the safety of these vehicles. States may be able to

supplement what NHTSA has done in areas where there is no FMVSS, but where there is none, NHTSA must act one way or another.

One or two of the draft bills included provisions for exemptions, but there appear to be no meaningful standards by which NHTSA can grant or deny an exemption. If there are to be exemptions, Congress or NHTSA must supply a standard, which is likely to be a challenging task since NHTSA does not appear to be ready even to propose FMVSS for any aspect of driverless cars. Plainly, there will be *some* risks from testing HAVs, but how much should be tolerated, and who will make the judgment about the level of such risk – and be held accountable for the harms that inevitably ensue – are open questions.

Even if there is agreement on the standard for approval of testing, or an exemption from an existing FMVSS, is NHTSA able to oversee the implementation of the testing? One significant problem is that there will be many different models and features because the manufacturers are not all taking the same approaches and offering the same innovations. Does NHTSA have the personnel and the field offices to oversee the testing phase, or should it deputize willing States to do that on its behalf for vehicles being tested within their borders?

There is another important open question regarding the testing phase: should localities have any power to say, "Not in my backyard," or even just, "Not in that part of town where the schools are, or during these hours"? In the alternative, might localities require test vehicles to carry special warnings, or simply require notification when HAVs are being tested in a locality? In the first instance, that may be a matter of state law, but it also may be a matter over which Congress or NHTSA has or should have control.

Staying within the testing phase, although some of these issues will remain significant once deployment begins, there is the broad issue of federal preemption. There is no question that once Congress, or a federal agency, affirmatively acts on particular matter, States can be precluded from issuing a different rule. But one of the draft bills appeared to be a broad preemption provision, but with *no* federal action needed to support it. I know of no law in which Congress has attempted to preclude States from acting when neither it nor any federal agency has taken any action in that subject area. To be sure, there will always be questions about how much overlap there is between what the Federal Government has done and what the State wants to do, but that always assumes some federal action to support preemption.

An essential part of the testing phase is the gathering of data and its analysis. One draft bill that provided that any testing information (broadly defined) that was submitted to NHTSA was automatically exempt from disclosure under the Freedom of Information Act. As drafted, that restriction would not apply to submissions to state agencies, but there is a more fundamental objection to it. Federal regulators, with their limited budgets, will have serious difficulties reviewing all the data that comes to them. In addition, more eyes and brains focusing on accident and other performance data make it more likely that problems can be identified as early as possible. Last, in my admittedly limited discussions with others and from articles I have read, as well as surveys reported by the Auto Alliance, there is a considerable portion of the population that is very afraid of driverless cars and wants to stay as far away from them as possible. Many of those individuals may be willing to re-consider their positions, but if they learn that only NHTSA and the manufacturers will have access to the crash data and the reports of when the self-driving mechanisms require human intervention, their worst suspicions will be confirmed. In the end, the perception of safety is likely to be as important as the reality if

driverless cars are to penetrate the market and be acceptable to the population at large. There may be some legitimately confidential business information in some submissions to NHTSA, but not everything falls into that category.

Another draft bill dealt with both data privacy and cybersecurity. It would require NHTSA and the Federal Trade Commission to enter an agreement as to how those issues would be handled for HAVs. These are very important areas of concern, but I have my doubts that NHTSA should have any role in either, other than to implement what either Congress or another agency has mandated. On data privacy, the FTC should be given express authority to issue rules, to be implemented by NHTSA, on how to protect the vast amount of information that will be have to be collected by HAVs to perform their basic functions of getting from one place to another. Because there will be so much communication among HAVs, and between HAVs and the sources from which they take directions, the problems of assuring data privacy, in the actual operation of HAVS, is even more complicated than are the privacy problems we face today.

On the cybersecurity side, there are real dangers from hacking not only to individual vehicles and those in proximity with them, but to transportation within a city because hackers have the capability to disable all of a particular make of vehicle in a particular area, like Manhattan, and bring all of those vehicle to an instant stop. I cannot begin to explain or even understand all of the potential dangers, but experts make clear that the problems are very real and very dangerous. Plainly, NHTSA is not up to the task, especially because, like protecting data privacy, cybersecurity measures are always in need of updating. I do not know which agency or agencies should be brought it to perform a function like that the FTC will take on for data privacy, but surely NHTSA will need expert help from another part of the Government.

There are a number of problems that will become more significant in the deployment phase (as I define it), such as driver training for HAVs and advertising limits, but there is one area in which study should start now. As the NHTSA September 2016 Policy Statement observed on page 46:

> "Rules and laws allocating tort liability could have a significant effect on both consumer acceptance of HAVs and their rate of deployment. Such rules also could have a substantial effect on the level and incidence of automobile liability insurance costs in jurisdictions in which HAVs operate."

We all know that it is impossible to eliminate all error, human or computer, and so it is certain that, even if HAVs are much safer than our current vehicles, there will still be crashes, for which someone should be held liable.

Traditionally, auto accidents and product liability rules have been matters of state law, generally developed by state courts, on a case by case basis. Some scholars and others have suggested that this may be an area, like nuclear power was in the 1950s, in which liability laws, which form the basis for setting insurance premiums, require a uniform national liability answer, especially because HAVs, once they are deployed, will not stay within state boundaries. They argue that, in contrast to common law development, which can progress very slowly and depends on which cases reach the state's highest court (and when), legislation can be acted on relatively quickly and comprehensively, without having to wait for the "right case" to establish the law. Moreover, HAVs will only become a majority of the vehicle fleet over a considerable period of time, and in the meantime, they will interact with more traditional vehicles in ways that create uncertainty, which may further slow down the deployment of HAVs unless the liability rules are clear.

I have no position on whether a national law is advisable, or what it would contain, but the issue of federal vs state liability law is already part of the discussion and it needs to be taken seriously. Because there are so many other HAV issues for this Committee to consider, perhaps the liability issue could be referred to the Judiciary Committee or to some other committee within the House. Because there are serious tradeoffs to make in this area, and because reaching consensus will not be easy, that is all the more reason why work on the liability issue should begin now, even though deployment is many years away.

From what I have learned, one of the first major areas in which HAVs will be deployed is the commercial transportation sector, which includes long distance trucks and buses. However, under the proposed California testing rules, vehicles over 10,000 pounds are precluded from testing, which almost certainly means that they will not be allowed to be sold/deployed until they are tested. I also noted that the draft bills precluded exemptions from being made available to large trucks. I understand that this exclusion may be because of the limits on this Committee's jurisdiction. Perhaps there should be some different restrictions on testing large HAVs, but it makes no sense to prevent them from being tested at all. On the other hand, it makes even less sense to allow them to be tested with no mandatory standards.

This brings me to another important issue: the impact of deployment of HAVs on workers, especially in the commercial transportation sector. If the supporters of HAVs are correct, potentially millions of drivers of trucks, busses, and taxis of all kinds may be put out of a job. While some will able to be re-trained to be on the production or maintenance side of HAVs, many will not. Again, this is an issue on which long term thinking needs to start now and not when job displacement has its major impact.

My final point is directed to the Trump Administration and to Members of Congress who seem to take the position that all regulations, especially those from the Federal Government, are bad ideas. At GW's June 14th conference on driverless cars, there were many areas of disagreement, but on one point, there was convergence. Everyone agreed that, if there is to be a future for driverless cars in the United States, Congress and the NHTSA cannot sit on the sidelines opposing all new federal rules; nor should NHTSA simply issue voluntary guidance. Federal HAV standards are needed for sound public policy reasons, among other reasons because existing rules, which were written with a very different understanding of the roles of car and driver, will stand in the way of the deployment of driverless cars, even on a small scale and perhaps will even prevent advanced versions to be tested on the roads. But even if there were no federal regulatory barriers, federal standards directed at HAVs are essential, and far preferable to having fifty states and the District of Columbia all deciding how safe is safe enough to permit driverless cars to be deployed.

Thank you for your attention and I stand ready to answer any questions you may have.

SUMMARY OF
STATEMENT OF ALAN B. MORRISON
JUNE 27, 2017

The focus of legislation and regulation now should be on the testing phase for driverless cars, with testing to be limited to vehicles operated by the manufacturer. At this time, there should be no driverless vehicles operated by persons other than the manufacturer.

It is essential that Congress direct NHTSA to issue mandatory standards that apply to the testing of vehicles that have equipment in SAE categories 3-5.

If Congress does not step in, States will do what California is doing and regulate the testing and eventually the deployment of driverless cars. Doing nothing is not a viable option.

Preemption is permitted only when the federal government acts in an area, which it has not done for many of the features in driverless cars. Congress has no authority to preempt (forbid) States from regulating these vehicles unless there are federal laws in place.

There is a serious question of whether localities should be allowed to regulate the testing on driverless cars, such as by banning them entirely; restricting where and when they can be tested; and/or requiring warnings on those vehicles.

Crash and performance data for driverless cars should not be treated a confidential business information but should, with very limited exceptions, be available so that States, consumer groups, and the general public can have confidence that these cars are reasonably safe.

Data privacy and the dangers of hacking are very big concerns. The Federal Trade Commission should be given authority to issue privacy protection rules applicable to HAVs and other federal agencies should be directed to assist NHTSA in dealing with cybersecurity issues.

Liability questions need to be considered now, including whether there should be federal laws in this area.

Mr. LATTA. Thank you very much for your testimony this morning.

And Mr. Day, you are recognized for 5 minutes. Thanks.

STATEMENT OF TIM DAY

Mr. DAY. Thank you. Chairman Latta, Ranking Member Schakowsky, and members of the Digital Commerce and Consumer Protection Subcommittee, good morning.

My name is Tim Day. I am senior vice president of C–TEC, the Chamber Technology Engagement Center. Thank you for the opportunity to provide testimony this morning on self-driving vehicles.

The U.S. Chamber of Commerce is the world's largest business federation representing the interests of more than 3 million businesses of all sizes, sectors, and regions as well as State and local chambers and industry associations.

The chamber established C–TEC to advance technology's role in the U.S. economy. I am here to testify on a vital aspect of the business environment—preemption—and also to support the LEAD'R Act.

The Chamber of Commerce has historically supported preemption for all modes of transportation as transportation is key to the healthy interstate commerce and the growth of our economy.

For example, according to the Department of Transportation, more than $1 out of every $10 produced in the U.S. GDP is related to transportation activity. As you can imagine, the United States is not the only country currently developing self-driving technology.

In China, Baidu, one of the largest internet companies in the world, has already announced that it will introduce its fully autonomous cars on highways and open city roads by the year 2020.

And Germany recently passed legislation to allow road test vehicles in which drivers will be allowed to take their hands off of the steering wheel.

For the United States to continue to be globally competitive in the self-driving vehicle market, we must provide American innovators with a single set of standards as opposed to a patchwork of laws by individual States.

Technology companies come in all sizes. Many of the current industry leaders once began with just an idea. The companies of tomorrow also will be started with ideas and we must create a business-friendly environment to allow them to succeed and thrive.

A recent Morning Consult survey just last week of over 2,000 registered voters found that three in five voters support the use of self-driving vehicles.

It also found that voters overwhelmingly predict the positive impact of self-driving vehicles on the disabled and elderly citizens of this country as well as the issues of drunk and distracted driving.

And finally, voters strongly prefer Federal standards when it comes to laws governing the use of self-driving vehicles. While further education of the American public is needed, this poll points to the fact that the public recognizes the potential benefits of this technology and the role of Federal Government.

C–TEC's autonomous vehicle working group has been convening stakeholders from both the commercial and passenger vehicle sec-

tors to ensure that the regulatory environment will allow for the U.S. to capitalize on these societal and commercial prospects.

From an economic perspective, a study by Intel completed this month shows that the economic opportunity from self-driving vehicles will grow from $800 billion to $7 trillion as self-driving vehicles become mainstream.

The study also finds that by the year 2050 the passenger economy, which is the result of self-driving vehicles turning drivers into passengers, will be a $7 trillion global industry.

Business use will generate $3 trillion as industries use self-driving vehicles to reshape their businesses and leverage new opportunities.

All this to say when we talk about self-driving vehicles, commercial or passenger, there is a lot at stake for the American people, our businesses, and our economy.

To conclude, the chamber supports the development of voluntary standards that do not constrain innovation. We advocate for technology-neutral policies that will allow new technology to develop and recommends against policies that are too specific.

The chamber also supports exemptions and recommends that regulatory agencies work closely with industry to craft these standards.

On behalf of C–TEC, I thank you for the opportunity to testify this morning and I look forward to your questions.

[The prepared statement of Mr. Day follows:]

Testimony of Tim Day
Senior Vice President, Chamber Technology Engagement Center, U.S. Chamber of Commerce

Before the Subcommittee on Digital Commerce and Consumer Protection
Of The House Energy and Commerce Committee
On
Tuesday, June 27th, 2017 at 10:00 AM
2123 Rayburn House Office Building

Hearing Entitled "Self-Driving Vehicle Legislation"

Chairman Latta, Ranking Member Schakowsky, and Members of the Subcommittee, thank you for the opportunity to provide the U.S. Chamber's perspective on self-driving vehicles.

The U.S. Chamber of Commerce is the world's largest business federation representing the interests of more than 3 million businesses of all sizes, sectors, and regions, as well as state and local chambers and industry associations.

The Chamber established the Technology Engagement Center (C_TEC) to advance technology's role in the U.S. economy. Our members are excited about the future of technology to drive economic growth and create jobs. C_TEC promotes policies that foster innovation and creativity and sponsors research to inform policymakers, regulators, and the public at large.[i]

Today's hearing takes place at an important time in the development of an emerging technology. With our deep automobile manufacturing experience and our world-leading technology companies, the United States has the potential to define and lead the world in the self-driving vehicle industry. Self-driving vehicles have tremendous potential to make travel safer, enhance

worker productivity, increase transportation efficiency, improve our economy, and increase mobility for the elderly.

However, without solutions and frameworks in place, America runs the very real risk of missing out on the incredible economic and lifesaving potential of self-driving vehicles. This United States is by no means guaranteed to lead the self-driving vehicle industry. In 2013, almost all self-driving vehicle development took place in the United States. On June 15 of 2017, the California Department of Motor Vehicles reported that more than 25% of its permits for self-driving vehicle tester program were issued to foreign companies.[ii] In April of this year, Chinese technology giant Baidu released plans to open source its self-driving vehicle technology in an effort to become the industry leader in self-driving vehicles.

I am here to testify on a vital aspect of this business environment: preemption. The Chamber of Commerce, being the voice of business, has historically supported preemption for all modes of transportation, as transportation is key to healthy interstate commerce. To be competitive in the global self-driving vehicle market, the United States needs to make sure that innovators face a single set of standards as opposed to a patchwork of standards from different states. Without preemption, we risk impeding our innovators and ceding our leadership in this industry.

My testimony today will be supported by the findings from a Morning Consult survey that C_TEC conducted just last week. The survey results are clear:

- Three in five voters support the use of self-driving vehicles;

- Voters are much more likely to support self-driving vehicles when they are told statistics related to traffic fatalities;
- Voters overwhelmingly predict the positive impact of self-driving vehicles on disabled and elderly Americans, as well as on issues of drunk and distracted driving;
- Voters strongly prefer federal standard when it comes to laws governing use of self-driving vehicles, and most agree with its importance regarding safety and state coordination; and
- Voters overwhelmingly say laws governing use of self-driving vehicles should be a bipartisan issue.

Today, I will focus on the following topics. First, I will lay out some of the core principles that regulators should follow to encourage growth and innovation in our economy. Next, I will identify some of the benefits of self-driving vehicles in terms of increased safety, mobility, and job creation. I will then explain in detail the regulatory needs of the industry, including preemption, and how they are necessary for U.S. entrepreneurs to stay competitive.

To start, it is important for me to lay out principles that will encourage growth in the self-driving vehicle industry. Emerging technologies such as self-driving vehicles are facilitators. They enable growth across many sectors of our economy, from transportation companies, to energy companies, to finance and investment companies, to even medical companies. Almost all industries today rely on technology to interact with their customers, improve their services, and make their operations more globally competitive.

To achieve growth in emerging technologies, our leaders have to make sure to keep their eyes on three overarching principles:

1) Encouraging emerging technologies to get to the open market, not stifling them before they can even be tested;
2) Maintaining one national standard rather than a patchwork of state regulations, a patchwork which will lead to uneven solutions; and
3) Preserving the ability of inventors and creative companies to fully utilize data and iterative learning from that data to produce technologies to better American lives.

My testimony focuses on the first and second of these principles: encouraging emerging technologies to come to market and maintaining a single set of regulations. To understand and fully appreciate the policy implications of these rapidly emerging technologies, C_TEC believes we need to bring together diverse perspectives on a host of related topics. We cannot think of these issues as "technology" industry specific. That is why C_TEC's Autonomous Vehicles Working Group co-chairs and members draw from a broad cross-section of business experience – from pure-play technologies to automakers to insurance and more. Each has something to offer in this conversation. Our three co-chairs are in fact from Allstate, INRIX, and Intel – each representing a very different perspective on the future of self-driving vehicles.

C_TEC's AV working group has already engaged on self-driving vehicle guidance with the National Highway Traffic Safety Administration and connected devices before the National Institute of Standards and Technology and the House Energy and Commerce Committee.

Our AV working group has been convening conversations and partnerships with stakeholders to help guide policymakers, regulators, the public at large and the business community on the benefits of self-driving vehicle technologies. It is already clear that four things will result from the incorporation of self-driving vehicles onto our highways:

1) a significant decrease in highway fatalities;
2) improved efficiency for businesses and consumers;
3) improved quality of life for currently homebound populations – namely America's seniors and individuals with mobility impairments; and
4) faster and cheaper delivery of goods to consumers.

To underscore these benefits, let me quote from C_TEC member Intel's recent testimony before Congress: "[our] vision for the future of transportation is one of zero accidents, mobility for all, environmental sustainability, reduced congestion, increased efficiency and innovation that evolves at the pace of technology to ensure U.S. global leadership."[iii]

Let us begin, as always, with safety first.

Right now in the United States, there are approximately 38,000 vehicle accident deaths a year. Overall, we have seen improved statistics on vehicle deaths in the last decade, but in 2015 alone, traffic fatalities rose by the largest percentage in 50 years.

National Highway Traffic Safety Administration research suggests that 93% of accidents are caused by human error and the increasing role of driver distraction in accidents has become a

topic of national debate. In 2012, driver distraction was identified as the primary cause of over 3,000 deaths and 421,000 injuries, figures up 9 percent from the year before.

A recent INRIX study of consumer experiences and attitudes around connected cars and self-driving vehicles shows that vehicle safety and technology's solutions are very much on consumers' minds. When INRIX asked for the most desired new car feature, respondents replied overwhelmingly: blind spot warning. The next most popular answers were also ones to which technology integration and the internet of things will be key: stolen vehicle warning/tracking, night vision enhancement, road incident alerts and resulting re-routing, and alerts to rear or front collisions. INRIX also found that 73 percent of those surveyed expect self-driving vehicles to be as safe as or safer than today's cars.

In the age of technology, we can combat vehicle accident deaths and driver distraction.

Just this month, Intel and Strategy Analytics released a report on the new "Passenger Economy" that will result from self-driving vehicles. It states a number of safety improvements that the U.S. could see with the emergence of self-driving vehicles:

- Conservatively, 585,000 lives can be saved due to self-driving vehicles in the era of the Passenger Economy from 2035 to 2045.
- Reductions in public safety costs related to traffic accidents could amount to more than $234 billion over the Passenger Economy era.

In 2015 a study by the University of Michigan's Transportation Research Institute found that while driverless cars were more likely than human-operated vehicles to get into accidents, all of those accidents were the fault of the human drivers of other cars. None of the driverless cars caused an accident and the authors of the study said that often, the driverless cars were struck because they were adhering to traffic laws, only to get rear-ended by an inattentive human in a conventional car.[iv]

In 2016, Allstate announced a multi-year research agreement with the Intelligent Systems Laboratory at Stanford University to help pave a way for safer roads. Allstate's Director of Innovation and Research said "(w)e see a self-driving vehicle future more as a matter of when, not if, and we want to be prepared to best serve our customers no matter who or what is behind the wheel. Allstate has long supported auto highway and safety reforms like seat belts, air bags and teen driver education. This is the logical next step as driverless technology continues to evolve."

Self-driving vehicles also have the potential to restore the mobility of those who cannot drive a car. This includes mobility impaired individuals or Americans with circumstances that leave them dependent on others.

Additionally, self-driving vehicles also present an opportunity to make our lives more productive. In 2016, research by Allstate showed the country's transportation network is highly inefficient, with vehicles sitting idle for most of the day. Allstate's CEO said "even moderate increases in effectiveness and efficiency have the potential to raise household income by 5

percent annually. I know of no other economic opportunity to generate this much wealth for Americans. Now, Allstate is leaning in to this opportunity."[v]

Lastly, self-driving vehicles also offer immense economic opportunity. The Chamber is proud to have had a long history of developing solutions that have brought growth and prosperity to this nation. The Chamber sees self-driving vehicles as another growth opportunity. A study by Intel completed just this month shows that the economic opportunity from self-driving vehicles will grow from $800 billion to $7 trillion as self-driving vehicles become mainstream. The same study finds that by 2050, the passenger economy will be a $7 trillion global industry. [vi] Consumer use will account for about $3.7 trillion of that industry as consumers will continue to seek out self-directed personal mobility. Business use will generate $3 trillion as industries use self-driving vehicles to reshape their businesses and leverage new opportunities.

Intel's study also shows that self-driving vehicles will spur change across a range of industries. For example, self-driving vehicles could define a new landscape of concierge and ride-hailing services, as well as pilotless vehicle options for businesses in industries like package delivery and long-haul transportation. The study shows that new and emerging applications and services will account for $203 billion in revenues from new use cases. [vii] Self-driving vehicles will also empower the commercial transportation industry too, reducing the time and cost of transporting goods.

I have laid out some of the benefits that self-driving vehicles can bring to communities all over the United States. I will now explain some of the regulatory steps that need to be taken to ensure that these benefits come to fruition.

As a core principle, C_TEC believes that government actions in this new area must be grounded in the realities of the complex and fast-changing self-driving vehicle testing and development process in order to foster rather than hinder investment and innovation.

As C_TEC member Qualcomm has noted previously, "much is unknown about the future uses" of emerging technologies. For this reason, "the U.S. Government should tread very carefully in the legislative and regulatory space to let any and all innovative, and potentially ground-breaking, technologies be freely developed."

To promote growth and innovation, C_TEC recommends five courses of action. First, regulations should be technology-neutral. Regulators must avoid even the accidental adoption of technology-specific processes for research and testing of self-driving vehicles. Doing so would run the potential risk of the U.S. government indirectly picking technology winners and losers by approving one manufacturer's system quickly while delaying another's time to market. Standards need to be voluntary and carefully designed so that they do not constrain innovation.

Second, there is another danger inherent in too much specificity in government standards. Regulators, even federal ones like NHTSA, cannot always be up to speed on the newest

technologies— it is just too difficult to build that kind of expertise given the fast pace of industry innovation.

The National Highway Traffic Safety Administration itself admits that "[g]iven the newness of HAVs and the private sector demand for persons with the necessary types of scientific expertise to work with those technologies, there is a shortage of suitable candidates to meet the Agency's critical hiring needs."[viii]

As a result, too much specificity in frameworks at this time without technical expertise to advise and review could prevent new life-saving technologies from entering the marketplace. A responsive and flexible regulator would give manufacturers the ability to quickly perfect critical new tools, both protecting consumers and keeping the industry competitive.

Third, exemptions in this industry will be critical. Entrepreneurs should be given the time and opportunities they need to develop new products. Exemptions should be granted by regulators to ensure that entrepreneurs can test new technology. Without adequate exemptions, innovators will struggle to even have the opportunity to test new technology and will not be able to compete with foreign companies in this highly competitive market.

Fourth, as has long been the practice, the government should consider defining objective performance standards for automobiles, and leave to manufacturers the important job of meeting those obligations and certifying compliance.

Finally, perhaps most importantly, a single set of federal standards is necessary for this industry to develop. While states would remain responsible for traditional state roles such as licensing, registration and insurance, a federal standard is important to ensure vehicles are able to seamlessly travel across state lines, adhere to common safety standards, and keep the U.S. competitive on a national scale.

The Chamber has historically supported federal preemption regulations for all modes of transportation, and supports preemption regulations for self-driving vehicles. Avoiding a patchwork of state laws enables manufacturers to be more innovative and ensures that any safety-enhancing automated vehicle technologies will be available throughout the country. To effectively support the development of self-driving vehicles and the safety benefits they will bring, it is important to avoid creating conflicts from multiple sets of standards.

Without a federal standard, we have seen in other industries that state laws and regulations rapidly become unnecessarily complex, time consuming, and costly – not to mention conflicting between states.

To conclude, the Chamber supports the development of voluntary standards that do not constrain innovation. The Chamber advocates for technology-neutral policies that will allow new technology to develop, and recommends against policies that are too specific. The Chamber also supports exemptions and recommends that regulatory agencies work closely with the industry to craft standards. Finally, the Chamber strongly supports preemption, as a patchwork of state regulations threatens the competitiveness of U.S. companies.

C_TEC and our members are ready and willing to engage constructively with Congress and the administration on these issues. Technology affects all of us, so C_TEC also strongly believes in the importance of working with both parties on these issues. We are here to serve as a resource to this committee and your colleagues to construct a framework to expand economic opportunities and develop forward-thinking policies in these areas. Thank you for this opportunity and I looked forward to your questions.

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[i] This C_TECH description is pulled from: https://www.uschamber.com/press-release/us-chamber-report-data-centers-average-325-million-economic-impact

[ii] https://www.dmv.ca.gov/portal/dmv/detail/vehindustry/ol/auton_veh_tester

[iii] Prepared Statement for the Record of Intel Corporation, U.S. Senate Hearing on "How the Internet of Things Can Bring U.S. Transportation and Infrastructure into the 21st Century," at 4 (June 28, 2016), https://www.commerce.senate.gov/public/_cache/files/46c728ce-377e-40609cac-55db2230ddf8/17D163EB418271C1D3BBC8D572D589EE.doug-davis-testimony.pdf

[iv] http://fortune.com/2015/10/29/self-driving-cars-crash/

[v] http://www.insurancejournal.com/news/national/2016/09/14/426275.htm

[vi] https://newsroom.intel.com/newsroom/wp-content/uploads/sites/11/2017/05/passenger-economy.pdf

[vii] https://newsroom.intel.com/newsroom/wp-content/uploads/sites/11/2017/05/passenger-economy.pdf

[viii] [Federal Automated Vehicles Guidance at 82.]

Mr. LATTA. Thank you.

Mr. Bozzella, you are recognized for 5 minutes for your statement.

STATEMENT OF JOHN BOZZELLA

Mr. BOZZELLA. Mr. Chairman, thank you very much. Ranking Member Schakowsky, Chairman Walden, members of the subcommittee, thank you very much for the opportunity to testify today.

I am John Bozzella, president and CEO of the Association of Global Automakers. Global Automakers represents major automotive manufacturers and suppliers that are making enormous investments in connected and automated vehicles right here in the United States.

We thank the committee for its continued interest in vehicle automation and are encouraged by the discussion draft which advances a number of important ideas to help deploy automated vehicles.

So why are we here? For Global Automakers, it is all about safety. Thirty-five thousand people lost their lives on America's roadways in 2015.

Unfortunately, this number is rising even though vehicles are safer than they've ever been. We need to work toward a future where cars no longer crash and zero lives are lost on the roads.

To get to zero, we need a comprehensive safety approach that involves all road users and transportation providers. Automated and connected vehicle technology is fundamental to this effort.

Right now, the auto industry is developing and deploying an array of automated vehicle technologies. These advancements are developing rapidly and we can put vehicles on roadways now and in the near future that will help save lives while regulators develop the necessary policy framework.

So the question is what do we do in this interim period? First, we need one set of running rules to support widespread introduction of automated vehicles.

Congress must clarify that the Federal Government is the primary regulator of motor vehicle safety. The law currently recognizes that a national vehicle marketplace needs uniform safety standards and that a vehicle purchased in one State can drive to a neighboring State.

Unfortunately, some States, perceiving a vacuum, have begun to regulate. This will lead to conflicting rules that could impede development of lifesaving technologies.

Second, in the interim, we need a flexible process that provides safety assurance while allowing meaningful deployment of these technologies.

This process should assure the regulator and the public that automakers are designing their systems with safety first in mind.

It is important that this assurance process be nimble and account for the rapid pace of innovation as NHTSA develops the data and basis for updating regulations.

Congress has a clear and key role to play in helping to remove barriers to innovation by expanding opportunities to deploy these technologies.

The way to do this is to expand the current exemption levels for certain motor vehicle safety standards that were written for mechanical devices in a way that maintains motor vehicle safety.

Finally, Congress should ensure that any framework does not pick winners and losers but instead encourages all levels of automation.

While level 4 and 5 driverless cars will bring significant benefits, level 3 vehicles, where the driver is still in the loop, can also provide major gains in safety, particularly for rural areas where highway fatalities are over twice the rate of urban areas.

Any framework should allow testing and deployment of all levels, and while safety is paramount, automated vehicles also create other benefits such as improved mobility for underserved communities and environmental benefits as automation, combined with transportation as a service, could significantly increase demand for electric vehicles.

Congress has the opportunity now to set the policy framework that will help ensure these benefits become a reality.

We look forward to working with the subcommittee on legislation to promote rapid and safe deployment of automated vehicles and I would be happy to answer any questions you may have. Thank you.

[The prepared statement of Mr. Bozzella follows:]

GlobalAutomakers

Aston Martin ◦ Ferrari ◦ Honda ◦ Hyundai ◦ Isuzu ◦ Kia
Maserati ◦ McLaren ◦ Nissan ◦ Subaru ◦ Suzuki ◦ Toyota

Written Testimony of John Bozzella
President and CEO, Association of Global Automakers, before the
House Committee on Energy and Commerce
Subcommittee of Digital Commerce and Consumer Protection
Hearing "Self-Driving Vehicle Legislation"
June 27, 2017

GlobalAutomakers

Executive Summary

- The Association of Global Automakers represents major automotive manufacturers and suppliers that are making enormous investments in connected and automated vehicles in the United States in order to save lives. We thank the Committee for its interest in vehicle automation and are encouraged by the discussion draft which advances a number of important ideas to help deploy automated vehicles.

- As these technologies are developing rapidly, we are in an interim period, while federal regulators develop the necessary policy and regulatory framework. At the same time, some states, perceiving a vacuum, have begun to regulate. This is a problem that will lead to conflicting rules that could delay deployment of life-saving technologies. In this interim period, we believe policymakers and regulators should:

    - Clarify that the federal government is the primary regulator of motor vehicle safety. This is not a departure from the Motor Vehicle Safety Act, but an application of its core principles to new and emerging forms of technology. The law recognizes that a national vehicle marketplace needs uniform safety standards, and that a vehicle purchased in one state can drive to a neighboring state.
    - Support a flexible process that provides safety assurance while allowing meaningful deployment of these technologies. This process should assure the regulator and the public that automakers are designing their systems safely.
    - Remove barriers to deploy automated technologies by expanding the current exemption levels for certain motor vehicle safety standards that did not contemplate automated driving systems, while maintaining motor vehicle safety.
    - Congress should ensure that any framework does not pick winners and losers, but instead encourages all levels of vehicle automation. While Level 4 and 5 "driverless cars" will bring significant benefits, Level 3 vehicles, where the driver is still in the loop, can also provide major gains in safety. Any framework should allow testing and deployment of all levels.

- While safety is our first priority, automated vehicles also create other benefits, such as improved mobility for underserved communities and environmental benefits, as automation combined with transportation as a service could significantly increase the demand for electric vehicles.

- We believe consumer education is an essential component for helping ensure the successful adoption and utilization of new technology, and a collaborative approach will be needed to identify the most effective means of providing relevant information to owners and operators of automated vehicles.

- We also believe that industry-led approaches can provide greater flexibility to respond in these dynamic areas of privacy, cyber, and data-sharing to best protect consumers.

- We look forward to working with the Subcommittee on legislation to promote the rapid and safe deployment of automated vehicles.

GlobalAutomakers

Testimony

Chairman Latta and Ranking Member Schakowsky, on behalf of the Association of Global Automakers ("Global Automakers"), I thank you for the opportunity to testify before the Subcommittee today. Global Automakers represents major automobile manufacturers and suppliers operating in the United States. Our automaker members have invested $56 billion in U.S. facilities and directly employ 98,500 employees located throughout the United States. Global Automakers' members have 28 manufacturing facilities in twelve states and built 4.6 million vehicles in the United States in 2016, a 41 percent increase in production in the last decade. Global Automakers and our member companies are committed to creating the safest, cleanest and most technologically advanced vehicles on the road.

The automotive industry is making major investments in the research and development of automated vehicle technology in the United States, and Global Automakers thanks the Committee for its interest and proactive approach to vehicle automation. Automated vehicle systems present significant potential to save lives, enhance mobility, improve transportation efficiency, and reduce fuel consumption. It is important therefore that public policy help spur this innovation, encourage testing, and enable nationwide deployment of vehicles across all levels of automation. It is also critical to acknowledge the role of vehicle-to-vehicle communications in enhancing safer, more efficient transportation. It would be a significant missed opportunity if, after making great progress in automating the vehicle fleet, we fail to deploy an interoperable, nationwide system to connect vehicles, road users, and infrastructure wirelessly to complement and expand the benefits of automation. With the right policies, the United States can continue to

lead in the development of these technologies and bring their benefits to the American people as quickly as possible.

Automated vehicle technology offers a tremendous opportunity to improve highway and traffic safety. Over 35,000 people lost their lives on America's roadways in 2015. Unfortunately, this number is going up, despite the fact that vehicles are safer than ever before. We need to work toward a future where cars no longer crash, and zero lives are lost on roads. To get to zero, we need a comprehensive safety approach that involves all road users and transportation providers. Automated and connected vehicle technology is fundamental to this effort.

Right now, the auto industry is developing and deploying an array of automated vehicle technologies, transforming the conversation from crash survival to crash avoidance. These advancements are developing rapidly, and we can put vehicles on roadways now and in the near future that will help save lives while regulators develop the necessary policy framework. So the question is: What do we do in this interim period?

The federal government has already taken an important step through the Department of Transportation's Federal Automated Vehicle Policy (the "Federal Policy"). While the details of the Federal Policy are currently under review, the safety assurance approach represented by the Federal Policy sets up a flexible interim framework which ensures that safety is being supervised and protected. The policy establishes a process that allows manufacturers to innovate, while keeping the National Highway Traffic Safety Administration (NHTSA) informed about new automated vehicle technologies and how they operate safely. These steps will help advance

deployment and will provide the necessary data that will inform future policy decisions and the scope of new regulations, but more needs to be done.

Global Automakers believes the discussion drafts released by the Subcommittee contain a number of important ideas designed to advance automated vehicle systems and their benefits. Congress should play a critical role in removing road blocks for these new technologies. We look forward to working with the Subcommittee to advance legislation that clarifies that the federal government has exclusive jurisdiction over the design and performance of motor vehicles and legislation that establishes a clear pathway to encourage deployment of automated driving systems.

Ensure the federal government continues to have primary authority over motor vehicle performance and design

We support the Subcommittee's efforts to clarify the federal government's primary responsibility over motor vehicle safety. The United States has long recognized that automobiles are sold in a national market, and that manufacturers' success rests on the ability to sell vehicles that can be sold and operated in all fifty states. The federal government further recognizes that vehicle safety is a national priority, and the Motor Vehicle Safety Act has set clear limits on the role of states in regulating the design of motor vehicles. Automated vehicles should be no different. Global Automakers therefore supports continued efforts by Congress and the Administration to ensure that there is a consistent national approach to automated vehicle policy, and to clarify the respective roles of federal, state and local governments. Unfortunately, some states, perceiving a

vacuum, have begun to regulate. This is a problem that will lead to conflicting rules that could delay deployment of life-saving technologies.

The primary roles and responsibilities of the federal government include setting Federal Motor Vehicle Safety Standards (FMVSS), ensuring compliance with standards, investigating potential safety defects, and issuing guidance for manufacturers and other entities. In contrast, state responsibility focuses on issues related to the operation of those vehicles on their roads, such as driver licensing and responsibility, vehicle registration, and insurance. Ensuring federal primacy over laws and regulations that prescribe design and performance standards for automated vehicles would help spur the further development, testing and deployment of automated vehicles. This approach has supported decades of improvement in motor vehicle safety and it is critical to ensuring the widespread benefits of automated vehicle systems can be realized nationwide.

Establish a path for the initial deployment of automated vehicles and ensure greater regulatory certainty

Policymakers and regulators should support a flexible process that provides safety assurance while allowing meaningful deployment of these technologies. Such a process can assure the regulator and the public that automakers are designing their systems with safety in mind. It's important that this assurance process be nimble and account for the rapid pace of innovation, in this interim period, as NHTSA develops a foundation for updating regulations.

We support the Subcommittee's efforts to create a clear path for the near-term deployment of highly automated vehicles. Congress can help expedite automated technology deployment by

providing NHTSA with authority to exempt an increased number of highly automated vehicles from standards that would otherwise limit their deployment. Existing regulations, understandably, did not envision the emergence of automated vehicle technology, and as a result there is uncertainty when seeking to certify a vehicle that is designed to operate without the engagement, or possibly the presence, of a driver. The standards assume traditional features that may no longer be necessary and are often written in mechanical terms that do not translate well to connected and automated technology. As noted in a March 2016 report by the U.S. DOT Volpe Center, there are a number of FMVSS that may limit the deployment of automated vehicles due to either explicit or implicit references to the presence of human driver.

The current DOT approach focusing on a safety assurance process, combined with NHTSA's existing authority to oversee motor vehicle safety through its investigation and recall authority, can help support the safe testing and deployment of automated vehicles on public roads as the Department considers the appropriate regulatory framework for automated vehicle systems. While expanded exemptions may provide greater opportunities for the deployment of automated vehicle systems in the short-term, it may not provide the necessary long-term certainty for manufacturers. It is therefore important that the federal government identify any outdated standards that may unnecessarily limit innovation and work collaboratively with industry and other stakeholders to update those standards to accommodate automated systems.

GlobalAutomakers

Ensure the policy framework supports all levels of automation

SAE International has established a "Taxonomy" for automated vehicles in its Standard J3016, which defines different levels of automation, ranging from Level 0 (meaning no automation at all) to Level 5 (where a car can drive itself in all conditions with no supervision or input from a human driver). We believe that any legislative efforts should enable a level playing field that encourages innovation across all levels of automation. While we believe that Level 4 and 5 "driverless cars" will bring significant benefits, Level 3 vehicles, where the driver is still in the loop, can also provide major gains in safety, particularly for rural areas where highway fatalities are over twice the rate of urban areas. Any framework should allow testing and deployment of all levels. Legislation should not favor one business model over another. The use of uniform SAE definitions that recognize the various levels of automation is also critical to consumer understanding of the technology and consistent treatment of automated vehicles on our roadways.

Consumer education, awareness and training

We support the Subcommittee's recognition of the importance of consumer education regarding automated vehicle systems. We believe consumer education is an essential component for helping ensure the successful adoption and utilization of new technology, and a collaborative approach will be needed to identify the most effective means of providing relevant information to owners and operators of automated vehicles.

There are significant benefits that can be achieved across all levels of automation, and it is important that consumers develop an understanding of the level of automation of a particular vehicle, the conditions or limitations under which the system may be operated, how the system may be designed to provide warnings to the driver, and how to activate and deactivate the system or resume manual control, if applicable. Manufacturers, car dealerships, rental car companies, ride-sharing or on-demand transportation providers, and other entities should each play a role, and federal and state governments can help support efforts to increase public awareness.

It is also important that drivers understand and recognize their roles and responsibilities when using automated vehicle systems, and recognize system limitations. As manufacturers research new approaches for how drivers interact with the technology, flexibility is essential to allow for innovative designs to develop.

Permit testing by both automakers and automotive suppliers to encourage innovation

Global Automakers' thanks the Subcommittee for its proposal to clarify that provisions allowing for the testing of non-FMVSS-certified vehicles apply to automotive suppliers as well as automobile manufacturers. Automotive suppliers are integral partners in researching, developing, and testing new automated driving technologies.

GlobalAutomakers

A flexible approach to data, privacy and cybersecurity

As vehicles have become more connected and automated, the industry has taken a number of proactive steps to address privacy and cybersecurity, and continues to engage with the various stakeholders on these important issues. We believe that industry-led approaches can provide greater flexibility to respond in these dynamic areas to best protect consumers.

In 2014, automakers proactively took steps to establish Federal Trade Commission-enforceable "Privacy Principles" to protect consumers' personal information. These principles are based on the Fair Information Practice Principles, and outline the various types of vehicle and driver information that are collected and how this data is used; they treat personally identifiable information, such as geolocation, driver behavior, and biometric information, with additional heightened protections. These Privacy Principles are applicable to vehicles manufactured after January 2016.

In 2015, the auto industry proactively established the Auto Information Sharing and Analysis Center, or Auto-ISAC, to share intelligence on immediate threats and vulnerabilities between industry stakeholders, and did so before any real-world cyber incidents. The organization has since grown to include 34 member comprised of 15 OEMs, and 19 suppliers and commercial vehicle companies. Additionally, the members of the Auto-ISAC have been actively engaged in the development of industry cybersecurity best practices to help enhance vehicle cybersecurity throughout the entire product lifecycle.

Similarly, we believe that an industry-led approach is best to address the quickly evolving issue

of data-sharing for automated and connected vehicles. There are a number of significant questions and challenges to be addressed, and we have already begun discussing these issues with our members to explore how effective data-sharing can promote continued safety improvements for automated vehicle systems.

Beyond Safety

While safety is paramount, automated vehicles also create other benefits, such as improved mobility for underserved communities and environmental benefits, as automation combined with transportation as a service could significantly increase demand for electric vehicles. Congress now has the opportunity to set the policy framework that will help make these benefits a reality. The combined effect of these trends has been recognized by a diverse group of organizations. For instance, Securing America's Future Energy (SAFE), which focuses on the need for energy security, believes that:

> *...the market environment will strongly favor the adoption of shared, autonomous cars powered by advanced fuels like electricity, promoting fuel diversity in a transportation sector...Modeling also shows that if a driverless future includes significant carsharing, petroleum usage in the transportation sector could decline by 50 percent by 2040, or perhaps even faster given the right mix of technology and regulatory developments.*[1]

McKinsey also supports this point of view, pointing to examples such as shared mobility

[1] http://secureenergy.org/report/safe-testimony-to-senate-commerce-on-driverless-car-rules/

resulting in more electric-vehicle sales because of lower costs of ownership and increased urbanization providing the right conditions to support these trends.[2] Also, Dr. Dan Sperling, a professor at the University of California-Davis, and his colleagues at the University, have been studying the effects of "the three revolutions" and how to maximize these trends in the context of urban transportation to significantly reduce greenhouse gases globally through 2050.[3] This further reinforces the need to promote automated vehicle deployments for the greater public good.

Conclusion

Global Automakers thanks the Subcommittee for its efforts to promote innovation and U.S. leadership in the area of vehicle automation. We look forward to working with the Subcommittee on automated vehicle legislation that clarifies the exclusive federal authority over motor vehicle performance and design criteria, and provides a pathway for the increased deployment of highly automated vehicles. Establishing a balanced federal policy will help spur the development and deployment of automated vehicle technologies that will improve motor vehicle safety, enhance personal mobility, and bring new efficiencies to our transportation system.

[2] http://www.mckinsey.com/business-functions/sustainability-and-resource-productivity/our-insights/an-integrated-perspective-on-the-future-of-mobility
[3] https://www.itdp.org/publication/3rs-in-urban-transport/

Mr. LATTA. Well, thank you very much for your testimony today, and that will conclude the statements from our panel and, again, thank you very much for being with us today.

And I will recognize myself for the opening questions. Mr. Bainwol, I would like to begin with you. Cybersecurity is a critical issue that has been raised by members on both sides of the aisle.

I know that when Mr. Welch from Vermont and I did the internet of things last Congress in our working group we had some discussions on this in that cybersecurity was a big issue that had come up.

What's the current status of the Auto Information Sharing and Analysis Center and what is the proper role for Government in the cybersecurity for self-driving cars?

Mr. BAINWOL. Thank you, sir.

First, cyber is absolutely a concern and it is one that as we move forward in this process we need to address. The auto industry in 2015, I believe it was, John—2015—established the ISAC uniquely in advance of an event. Almost every other sector had established an ISAC after an event occurred. So we were proactive—an overused word but truthful in this case, and the ISAC is up and running.

What I'd like to do is offer the ISAC to come in to brief the committee privately. It is difficult to walk through the process and procedure of the ISAC that is in a public setting because we don't want to provide a roadmap for actors who want to abuse the system.

But I think it might be useful as you contemplate finalizing this package of legislation to hear directly from the ISAC and so I'd like to make that offer.

But it is up and running. It is promulgating best practices and it is dealing with threats today.

Mr. LATTA. Let me ask, as a quick follow-up, should the Government set the cybersecurity standards or act as a watchdog or what?

Mr. BAINWOL. So the threat is a dynamic one and the notion of setting standards today may be relevant for the moment but not enduring. And so we think that the approach should not be a standard set by Government.

Mr. LATTA. Thank you.

Mr. Day, your members include a host of industries involved in the development of self-driving cars. How important is a national safety framework at NHTSA for keeping self-driving car innovation in the United States?

Mr. DAY. Absolutely. Thank you for the question, Mr. Chairman.

So we have been working on this issue at the chamber for quite some time. We have developed a working group of both large and small companies that have been engaged for quite some time.

It truly is critical. We believe that, you know, as we were discussing in the opening statements, the Obama administration set the framework for this activity last year. The foreign competition is real.

As I mentioned in my testimony, you've got China, you've got Germany and a number of other countries that are looking at this technology and for us to continue to maintain leadership in this area it is critical that we move forward with this legislation as pro-

posed and we look forward to working with you and the members of this subcommittee to make sure that that happens.

Mr. LATTA. Thank you.

Mr. Bozzella, let me turn to something you said in your testimony that has been something I have brought up for a good number of months here.

You stated that the advancements are developing rapidly. You know, if you look back 5 years—and one of the great things about serving on this committee and especially on this subcommittee, we look over the horizon, and the companies out there that are doing development are looking at the horizon—would you say that, if you look back 5 years, are you where you are today or are you farther ahead than you thought you'd be 5 years ago?

Mr. BOZZELLA. I think we are much further ahead than I thought we'd be and I have been in the industry over 20 years, and I think that it continues to surprise me, the rapid pace of innovation, and I think we have a real opportunity here with this framework to responsibly and effectively, with safety first in mind, continue to allow now these advancements to deploy into the marketplace and save lives.

Mr. LATTA. Thank you.

Mr. Strickland, there has been some discussion of the States filling the gap in the safety regulations with State-specific self-driving car rules.

What would it mean for your members to comply with 50 or more different safety frameworks, and how and why is this not a concern today with cars on the road?

Mr. STRICKLAND. Mr. Chairman, frankly, I mean, this would be a disaster, frankly, not only the members of my coalition, which includes three technology companies and two OEMs, but, frankly, the entire industry.

As was stated by the panel, historically speaking, the National Traffic and Safety Act is meant to create a uniform national framework of vehicle safety to make sure that there is no gaps in safety for any vehicle in the stream of commerce in the United States and more specifically not to hamper innovation.

When you think about how cars are being tested today, the innovation is like—electronics' ability to control that was introduced in 1990 all the way through crash imminent braking.

Those are innovations that were built within the current framework that maintain safe thoughtful testing and deployment and also have the protection of making sure that you can do this in all 50 States.

So if this evolved or changed or if States created 50 individual mini NHTSAs it, frankly, would be the undoing of, frankly, our auto market and really impact our competitiveness, our ability to be able to move new technologies into the fleet thoughtfully and safely.

Mr. LATTA. Thank you very much. My time has expired, and the Chair recognizes the gentlelady from Illinois, the ranking member of the subcommittee, for 5 minutes.

Ms. SCHAKOWSKY. Thank you, Mr. Chairman.So both you, Mr. Wallace, and you, Mr. Morrison, observed in your testimony that NHTSA's capabilities should be strengthened significantly through

increased funding and authority, and you, Mr. Morrison, it sounds like to fill a vacuum.

So let me ask each of you to comment, and if you could be brief because I have a number of questions. Do you believe that NHTSA currently has the authority, data, staff, expertise to ensure that highly autonomous vehicles are safely deployed?

Mr. Wallace.

Mr. WALLACE. No. I believe that NHTSA needs far more staff that have the expertise in electronics and software. NHTSA needs to receive far more data about automated vehicle systems from companies and the systems that are approaching level 3, and as for authority, NHTSA, although some of the other witnesses have talked about NHTSA's broad authority, what we've seen in practice is that the agency has not had a practical ability to get vehicles off the road quickly. And so NHTSA needs imminent hazard authority so it can do that.

Ms. SCHAKOWSKY. Thank you.

Mr. Morrison.

Mr. MORRISON. I will speak only about the authority question. I have no question in my mind that NHTSA has the authority to fill the vacuum and if it does it would be proper to preempt State laws.

The problem is that the industry position is voluntary guidance from NHTSA is enough and the States should stay out of the way.

I don't think that is the right balance to be struck and that NHTSA ought to find some way to exercise its authority not over testing specifically but before we start getting into deployment, which is what really concerns me.

Ms. SCHAKOWSKY. You reacted to the statement that there ought to be exemptions for safety standards. I wondered if you wanted to comment on that.

Mr. MORRISON. I want to be clear that I am talking about the exemptions for deployment. That is, when anyone other than the car manufacturer is driving the vehicle or operating the vehicle, I guess, is more proper in this context, or controlling the vehicle even if nobody is in it that is where I get worried about the exemptions.

We don't need any exemptions for the testing phase and the concerns about foreign countries getting ahead of us they will not be able to bring their cars into this country unless their HAVs meet our safety standards.

There are currently no safety standards for them to meet. So unless they get an exemption, and they would not be eligible for exemptions here, we don't have to worry about foreign competitors.

We need to do testing and then worry about exemptions and preemption after that.

Ms. SCHAKOWSKY. So, Mr. Wallace, you were talking about NHTSA has already requested imminent hazard authority. Is that true?

Mr. WALLACE. That's true.

Ms. SCHAKOWSKY. I want to talk about a number of issues that are currently on the safety radar screen, at least for me.

You said, Mr. Morrison, in your written testimony, "The focus on driverless cars and their potential for saving lives and money is not a green light to abandon all other safety-related rules that NHTSA could issue now without any changes in its governing statute," and

I just wanted to bring up again an issue that has been close to my heart and constituents and consumers that I have been dealing with.

Last year, 39 children died in vehicles from heatstroke, and I have talked to parents and we've had a press conference, the most heartbreaking press conference I ever had, who can never ever forgive themselves about forgetting their child in the back of a car.

So, Mr. Wallace, how could NHTSA help reduce the number of heatstroke victims?

Mr. WALLACE. NHTSA could reduce the number of these tragic deaths that occur by requiring every new vehicle to have technology on it that notifies the driver if there is a child still in the back seat, and that is what the Hot Cars Act would do and that is why we support it.

Ms. SCHAKOWSKY. And, Mr. Morrison, so you would put a focus on testing. Do you feel that the legislation before us doesn't distinguish sufficiently between testing and deployment? Is that a chief flaw that you see right now?

Mr. MORRISON. I think you have to read it very, very carefully to understand that deployment doesn't mean testing. Deployment means selling these cars to fleets like Uber, car rental companies, or anybody else who is willing to buy them at $100,000 per year per manufacturer with 5-year exemptions.

That strikes me as an awful lot beyond testing and I think we need to be careful to say testing is OK now but no exemptions for deployment.

Ms. SCHAKOWSKY. I am wondering if—my time is up—if you could give us your suggestions on how to proceed ahead and I would welcome them also from you, Mr. Wallace.

Mr. MORRISON. I will try to draft something for you.

Ms. SCHAKOWSKY. OK. That would be great.

Thank you. I yield back.

Mr. LATTA. Thank you very much. The gentlelady yields back.

The Chair now recognizes the chairman of the full committee, the chairman from Oregon, for 5 minutes.

Mr. WALDEN. I thank the chairman. Again, I thank our panel of witnesses. Your testimony is most helpful in our work and we appreciate your insights and opinions.

Mr. Bainwol, there are many potential benefits for self-driving cars, as we have heard from various participants in this discussion. I expect we'll hear even more today.

That said, self-driving cars are not on the road today and won't be for the next few years. Why are these concepts in the discussion drafts important for your members—could you look at that for us—when it comes to innovation in developing self-driving cars?

I mean, it is a range of options we are talking about here to get to where there is no steering wheel and it is completely autonomous, right?

Mr. BAINWOL. So this is a relatively long evolution. It is both true that the future is here and that it is going to take a while to get here in full. So I alluded to Moody's stipulating that ubiquity would occur in 2055 so that is 40 years from now.

But they'll be available in 2020, 2021. It is right around the corner and the research is going on as we speak and has been for years.

So the question here is how do we accelerate the future in a prudent way that maximizes safety. In my oral, I discuss the NHTSA framework that sought to optimize the balance so that you'd have protection of consumer but also the lubrication for innovation to occur. And that is really what this day is all about is how do you promote and maximize innovation here in the United States.

Mr. WALDEN. And I want to point out again that these are staff discussion drafts. This is the beginning, not the end, and the importance of having everyone weigh in is not lost on us.

Mr. Day, in your testimony you mentioned a survey, I believe, that was completed earlier this month. Did that survey look at how people who have some of the advanced safety features on their cars, they feel about the future of self-driving cars?

I gave you my example and it seems to me you would go, wow, that makes a big difference. Does that affect the data?

Mr. DAY. It does, and so people, once they start to experience, from our findings, from semi-autonomous vehicles, from automatic braking, from lane assistance——

Mr. WALDEN. Right.

Mr. DAY [continuing]. Et cetera, when they start to understand the benefits and they understand what that means to overall safety, people understand and appreciate and support the technology. Absolutely.

Mr. WALDEN. Yes. And I have to believe that, you know, you're going to reduce vehicle accidents, clearly, and the cost that goes with it.

I suppose the auto body shop folks might not be as happy—oh, they don't want all this either, I know. But my chief of staff got a new Jeep—I will probably get in trouble for telling this story—but she was backing up and it stopped because she was very close to something near her mirror and it stopped the Jeep.

And I just think about the savings this is going to bring everybody and the ability to save lives and injuries.

Now, we do want to make sure before we unleash all these vehicles on the road with no steering wheels, off in the future, that that all is going to work.

I got to admit, you know, that leaves you a little unsettled initially that all that may happen and how do you override it? I know with the technology in our car you can clearly override it but it does keep you in the lines.

Now, I also have seen where—and this is part of why I think you need Federal involvement—if the paint is gone or not sufficient along the side lines or the center line or whatever, then that part of the safety technology doesn't work.

So do you need a paint standard? By the way, none of that works if you got two inches of snow and ice, I assume, on the road. I mean, you're always going to have some level of importance of driver involvement.

As you're looking at the development, going forward, what is it that will work in those situations where it is not a clear highway?

Who can address that in terms of how we might minimize those—yes, sir. Go ahead.

Mr. BOZZELLA. If I could, Mr. Chairman. I think you make two really important points. One is this is a whole spectrum of technologies that will be deployed based on competing business models, right.

So you'll have driverless vehicles, but you'll also have vehicles where the technology is a guardian angel. I think that is a very important point.

To your point about—we will call it redundancy, the idea that you need lots of different sensing capability: cameras, radar, LIDARS—we think vehicle-to-vehicle communications and vehicle-to-infrastructure communications is, frankly, the code that will connect all of these technologies together that will work in the snowstorm, that will connect highly automated vehicles with less automated vehicles. So that, to us, would be a significant policy and technology answer to your question.

Mr. WALDEN. All right. It appears my time has expired.

Chairman, thank you again for your leadership on this. I know everybody on the committee is very intrigued by what you're doing here and the drafts and where we might head. So I yield back.

Mr. LATTA. Thank you very much. The gentleman yields back.

The Chair recognizes the gentlelady from Michigan for 5 minutes.

Ms. DINGELL. Thank you, Mr. Chairman. I want to thank you and your staff for all of the hard work on these bills. Taken together, they are an important step in the right direction to unleashing a safe autonomous future and I think for everybody in the room the way that they were drafted was to allow complete discussion of the various issues for people to express their concern, to not have this mammoth bill that nobody can read.

But it is, obviously, a subject that is the future, has many issues connected with it. I am committed to working with my colleagues on both sides of the aisle to pass bipartisan legislation—it would be nice to say nonpartisan; why does the world always have to be Republican, Democratic?—American legislation that protects safety.

There is nobody that is more bugaboo about cybersecurity than me. I didn't get a Kroger card for years because I didn't think it was anybody's business what I bought. And the motor vehicle safety issue we are trying to address—people don't realize that legislation right now is out of date. It is 50 years old, and it has not kept up with technology, and it is moving so rapidly.

Joan Claybrook is in the audience. She's been a hero of mine for a long time. How do we, in our ever-changing world, make sure what she's fought for a lifetime is there but that we aren't becoming outdated in this country because we are not keeping up? These are real issues that we need to talk about honestly and try to figure out.

That said, I think it is very important we have clear rules of the road for Federal and State authorities when it comes to AVs.

As you know, I represent the employees of a number of OEMs—yes, I am a car girl, and I am proud of it—who are investing in a lot of autonomous vehicle development. Those companies agree

that establishing clear responsibilities for Federal and State authorities is essential. They also agree that we need a mechanism that will allow autonomous vehicles to be deployed in a safe and responsible manner. The PAY, ROAD, and EXEMPT Acts are designed to do that.

Could I ask you all quickly whether you share that view and how will these bills help facilitate safe and responsible deployment? We will start with you, Mr. Bainwol.

Mr. BAINWOL. Sure. It is the combination of the two that is vital. You both need a national framework so that there is not confusion and you can—you can design to a single national approach.

But you also need exemptions, and exemptions are not willy-nilly. This is a process where you will—where you will have to submit evidence to NHTSA, and if NHTSA does not feel like the evidence warrants the exemption it will not be granted.

This will take months. There will be public comment. So the notion that this is just the Wild West is not accurate.

The combination of the two—the national framework and the ability to invest a substantial amount of money, and have exemptions and a number where you can drive a return—is crucial. One without the other does not work.

Ms. DINGELL. Mr. Strickland, we are going to have to go fast. I got a minute and 52 seconds, and 20 questions is not going to work. But keep going.

Mr. STRICKLAND. Ms. Dingell, I align with Mr. Bainwol's assessment. I will make it that quick and easy, and I can expand LEAD'R.

Mr. MORRISON. So I would say two things.

First, the statute is not out of date in terms of being able to do this particular job of writing standards.

Second, if I were in charge, I would say direct NHTSA to begin work on standards immediately and start down the road and stop relying on voluntary guidance.

That's the best way to strike the balance between State involvement and Federal involvement. If the Federal Government doesn't get involved, the States are going to fill the vacuum.

Mr. WALLACE. So we at Consumers Union Consumer Reports we are not opposed to testing. We are not opposed to the idea if exemptions. But first I want to note that not all highly automated vehicles will need exemptions.

And second of all, we need across the board criteria for when exemptions are granted and how to apply for them so that it is clear to the public what assurances are provided about their safety.

Ms. DINGELL. Any other comments?

Mr. WALLACE. I agree with Mr. Bainwol's comments earlier.

Mr. BOZZELLA. Yes. I agree also. We have a language problem, right. We have rules, Federal Motor Vehicle Safety Standards, that refer to mechanical devices in human beings, and we need an opportunity in the near term to responsibly, with safety first in mind, deploy vehicles while the agency does its work.

Mr. MORRISON. May I say those standards are not a barrier to testing. The tests can go on right now with those existing standards because the statute says that the standards do not apply when there is testing going on.

The big divide is between testing and deployment. Testing means that the auto companies have qualified people in these vehicles or running them. Deployment means anyone can do it. That is the big divide.

Ms. DINGELL. I want to say that we agree that when it is deployed that we address that motor vehicle safety—there are some differences here.

Mr. Chairman, I'd like to put more questions in the record. Michigan shares with California wanting to be at the forefront making sure that this is safe. But we got to keep moving. So thank you very much.

Mr. LATTA. Thank you very much. The gentlelady's time is expired.

The Chair now recognizes the gentleman from Mississippi, the vice chair of the subcommittee, for 5 minutes.

Mr. HARPER. Thank you, Mr. Chairman.

Mr. Strickland, in your testimony you mention the numerical and temporal limitations on exemptions under current law.

Can you please explain why such limitations may present really concrete obstacles to the development and deployment of self-driving cars?

Mr. STRICKLAND. Yes, sir. The bottom line being is NHTSA lives on data. The only way that you get data is, frankly, ultimately by real-world experience and, frankly, deployment and testing are, frankly, our tongue and groove.

So having the ability to test beyond, you know, 2,500 vehicles for 2 years, frankly, is a hard limitation that you can't generate the kind of data needed for NHTSA's next activity. So this expansion, thoughtfully done, is a very necessary approach.

Mr. HARPER. OK. So if we are talking about that expansion, how will increasing the number of vehicles the manufacturer can get in exemptions help push this technology forward?

Mr. STRICKLAND. Well, I will say, think about—once again, you'll never divorce us from safety. It still had to prove equivalent safety in terms of what you're looking at the exemption for, number one, and as administrator of NHTSA for 4 years, it is a power that is, frankly, very jealously guarded and very cautiously used.

It has to be well evidenced, as Mr. Bainwol noted in his commentary. So having the opportunity to be able to have an expanded fleet to gather data can inform what's working in the fleet, what's not working in the fleet, what technology is working.

Parts of what the policy that the Obama administration laid out last year gives the vector for the agency to be able to build the case for a future possibility of rulemaking.

Without those exceptions, the agency had nothing to act on and it is going to be inert unless it gets that data. That's why exceptions are so necessary.

Mr. HARPER. Right. So speed up the time line is what we are talking about here.

Mr. STRICKLAND. Absolutely. Yes, sir.

Mr. HARPER. Right. If I could, Mr. Bozzella, I have heard some people argue that self-driving cars are good for encouraging the adoption of electric vehicles. Do you have an opinion on that topic?

Mr. BOZZELLA. Yes, I do, and I think there are people across the spectrum that are looking at this and researching this. I do believe that when you combine these two very significant technology trends and advancements, one, automated vehicles, especially highly automated and driverless vehicles with changing ownership models, the idea of transportation as a service, those will create demand, in my view, for electric vehicles which have a perfect sort of capital model for that type of business.

In other words, they have a greater up front cost but lower operation costs and so I think you'll see transportation as a service—providers who are using highly automated platforms adopt electric vehicles as well.

Mr. HARPER. OK. Thank you very much.

Mr. Bainwol, it is good to see you again. I had a chance to visit with you at a reception not too long ago. You know, individuals with disabilities often face those transportation obstacles that we've talked about and from personal experience it does make daily tasks such as employment and other items very difficult.

Do you see self-driving cars as being a catalyst for breaking down some of those barriers?

Mr. BAINWOL. Being a catalyst?

Mr. HARPER. Yes.

Mr. BAINWOL. Absolutely. There are an infinite number of benefits from self-driving cars from economic to quality of life.

But the most profound one, in addition to the saving of life, is the quality-of-life aspect for those in the disabled community.

Mr. HARPER. OK. Do you see your members thinking about the potentials for the disability community as they plan out this and they look at the future and their future business plans for self-driving vehicles? Is this being considered by everyone?

Mr. BAINWOL. Absolutely, and not a member but a few years ago Google made a demonstration at Waymo of the blind individual going to a Taco Bell and it was a very vivid demonstration early on in this process that automation has these benefits.

Mr. STRICKLAND. Mr. Harper, may I add in on it?

Mr. HARPER. Yes, please, Mr. Strickland.

Mr. STRICKLAND. Absolutely. We are talking about a community of 36 million people that are underserved because of lack of individual transportation choices.

Twenty million of those people, frankly, have the ability to work and be a part of this economy. Our members specifically have talked about this and have integrated disability groups into our coalition as well to think about this. How do we build a vehicle from the bottom up to make sure that it is fully accessible for the variations of the disability community?

So we are very much leaning into that possibility not only for the safety benefits but how do we better serve, frankly, an underserved community that has suffered for way too long.

Mr. HARPER. Yes, and this is a question I would like to ask you, Mr. Strickland, and you, Mr. Bozzella, and that is what benefits do you see in creating councils that allow stakeholders, innovators, members of the public with expertise in self-driving cars to engage with public officials?

Mr. BOZZELLA. I think the public debate is very important. I think manufacturers have a significant role in public education and I think part of that public education process is bringing different stakeholders together to continue to have dialogue about how to deploy these vehicles.

I would say that that dialogue should also include automotive suppliers who are driving a significant amount of this vehicle technology research and development.

Mr. HARPER. My time has expired.

Would you agree with what he just said, Mr. Strickland?

Mr. STRICKLAND. Yes. Not only with Mr. Bozzella, but I also think about too all those stakeholders, but especially those communities that have been affected, like the disability community, to be able to communicate their issues and their needs specifically but, frankly, everybody along the chain of responsibility in manufacturing and developing vehicles should have some say.

Mr. HARPER. Thank you. With that, I yield back.

Mr. LATTA. Thank you very much. The gentleman yields back the Chair now recognizes the gentleman from California for 5 minutes.

Mr. CÁRDENAS. Thank you, Mr. Chairman. I appreciate this opportunity for us to have this discussion.

I love the fact that the U.S. has always had the most innovative and the strongest auto industry in the world. We should continue to support and grow our auto industry as autonomous vehicles because part of our present and our future.

I believe that we can continue to lead by solving issues, for example, of cybersecurity and privacy and by making sure that autonomous vehicles designed here are used—here and around the world are the best when it comes to safety today and tomorrow and forever.

That is why we need proper laws and regulations, not to get in the way of American innovation but to hold ourselves to the standard that we have always strived to adhere to and that we have done, that is, admired American products around the world.

We should give our agencies the tools to enforce smart and targeted improvement. I am concerned that some of the language in this draft legislation, specifically the MEMO Act, hurts our ability to make sure customer information is protected by limiting NHTSA in one area and FTC to another.

This could prevent us from helping to make sure that cars are not hacked and customer information is protected when we could just allow NHTSA and the FTC to make the determination of who will take on what in the course of their work, and this is something that we certainly don't want to make the mistake of making sure we have two departments pointing at each other and say, "Well, that is not exactly my jurisdiction. Somebody else should take care of it." The problem would be when no one addresses those issues.

Mr. Wallace, what consumer data could automated vehicles potentially collect?

Mr. WALLACE. These cars, it would be an understatement to call them computers on wheels. They are incredibly complex.

They have hundreds of millions of lines of code in them, and that goes for highly automated vehicles that are coming down the pike as well as vehicles already on the road today.

So the type of data that they can contain and collect is what you might see collected on the computer.

But then in addition to that, where you go and other things that are directly related to driving. Now, I completely identify and agree with what you were saying about the two agencies, FTC and NHTSA.

These two agencies have different authority and expertise. The FTC is charged with protecting consumers from unfair or deceptive acts or practices.

NHTSA is charged with protecting auto safety. These two agencies should work together. In fact, we were calling for them to be granted the authority to write joint standards.

But what shouldn't be done is to inhibit their work by drawing boundaries that could constrain the authority that they currently have.

Mr. CÁRDENAS. Is there a potential that third party companies could want to buy this information from a car manufacturer?

Mr. WALLACE. Yes.

Mr. CÁRDENAS. So if that is the case, wouldn't it help to make sure where those bright lines are about how that information can or can't be transposed from one company to another?

Mr. WALLACE. Absolutely, and that is why we are calling for joint standards to make sure that consumers know where their data is going, know who's collecting it, and also that they can trust that companies are having to abide by a legal standard.

Mr. CÁRDENAS. Mr. Wallace, is there any recommendation you would have for the current legislation before us in order to hold our manufacturers to a strong customer privacy standard?

Mr. WALLACE. Yes, we support strong joint standards written by NHTSA and FTC jointly and we recommend that the committee grants APA rulemaking authority for those two agencies to write standards together.

Mr. CÁRDENAS. Well, I sit on another subcommittee where we have the FCC before us quite a bit, and it appears that, when it comes to customer privacy and things of that nature, FCC seems to be much more accustomed to dealing with privacy issues, unlike FTC and NHTSA.

So the fact that we have two hopefully able and willing departments willing to tackle this responsibility of the future of autonomous vehicles, I think it is important that we not make the mistake as legislators to leave gaps that could perhaps take years for us to finally say oops, we should have closed that the first time.

I would love to see this legislation move forward with those gaps closed but as of right now, unfortunately, I think that where there are gaps and there are finger pointing, what happens is we tend to have a lot of mistakes before we correct them.

So with that, I am out of time. So thank you very much, Mr. Chairman, for holding this hearing, and I yield back.

Mr. LATTA. Thank you very much. The gentleman yields back.

The Chair now recognizes the gentleman from New Jersey for 5 minutes.

Mr. LANCE. Thank you, Mr. Chairman, and good morning to the panel.

This committee has a long history regarding auto safety and we have taken the lead in pushing both industry and NHTSA to increase recall efficiency both on the supply and the consumer side.

Mr. Strickland, how do you see self-driving automobiles affecting the rate of recall completion?

Mr. STRICKLAND. Well, it depends on the situation in terms of how this market evolves and how this technology evolves.

The one thing that I think a number of stakeholders and technologists have talked about is that when a level 4 or level 5 vehicle can actually be notified of its need to be coming up for a recall or repair, it can actually maybe flip the repair model as opposed to having for a consumer driving the car to the dealership to get the recall repair exacted.

The car could drive itself. In off hours, it can exact that recall opportunity and get fixed and be back at home before the consumer needs it.

So, frankly, the technology probably has an opportunity to improve recall remedy rates.

Mr. LANCE. Others on the panel, do you have views on this? Mr. Bozzella or Mr. Bainwol.

Mr. MORRISON. I just note that the correlation in terms of recall fix is very strong and as the newer the car the more likely the individual is to get it fixed, and the closer the relationship also to the dealer. Those are the two factors—new car and dealer relationship.

So, obviously, at the advent of the introduction of these the cars will be new and they'll work and because, as David suggested, it is a self-driving car, from a time standpoint it will be easy to accommodate.

Mr. LANCE. Thank you.

Mr. Bozzella.

Mr. BOZZELLA. Yes, I would agree with Mr. Strickland and Mr. Bainwol.

Mr. LANCE. Thank you.

I apologize for the redundancy, but I feel the statistic warrants repeating that over 35,000 people died and nearly 2.5 million more were injured in automobile accidents in 2015.

This is a very sobering figure, and approximately 95 percent of crashes are caused by human error and I am encouraged by your technology.

Mr. Bozzella, I have seen some reports that claim self-driving cars could free up 50 minutes a day on average for drivers.

This is important in New Jersey, the most densely populated State in the Nation, where many of our residents are stuck in traffic on a daily basis during the work week.

Do you have figures as to how you think this might affect the average commute for a constituent of mine in New Jersey?

Mr. BOZZELLA. I would like to be able to get back to you with a full set of figures. But I think that the general notion is absolutely correct, and I think what we should be thinking about is not only the driverless car—the highly automated level 4, level 5 car of the future—but also the congestion benefits of level 3 cars and also which are safer, because congestion is often related to crashes, but also the idea of vehicle-to-vehicle communications which will allow vehicles to travel more closely together very, very safely.

So I think the combination of technologies across the spectrum of vehicles can reduce congestion significantly.

Mr. LANCE. Thank you. Others on the panel, do you have a view on this?

Mr. STRICKLAND. I align with Mr. Bozzella's comments.

Mr. LANCE. Thank you. Thank you.

Mr. Bainwol, can you share with the subcommittee how self-driving vehicles can provide positive effects on the environment perhaps in the area of emissions and pollution?

Mr. BAINWOL. Sure. Absolutely there is value. One of the things about crash avoidance—and self-driving is the ultimate in crash avoidance—is that it aligns safety and environmental objectives.

It helps in several ways, cars that don't crash as often, because you have less congestion so you have less idling time. So you get from point A to point B faster.

But the cars themselves are more efficient, and some say 5 to 10 percent more efficient, in terms of the drive itself. No lead foot.

So both for the purposes of avoiding congestion and for the purposes of a more efficient drive and also when you think about the nav benefits, the quickest route of—there are lots of reasons why this is environmentally positive.

Mr. LANCE. Thank you.

Others on the panel? Yes, sir.

Mr. WALLACE. I would just note very briefly that additional research needs to be done to understand with greater certainty what the environmental impact is going to be——

Mr. LANCE. Yes.

Mr. WALLACE [continuing]. Because at this point currently it is not clear whether automation would lead to cars being more efficient or far less efficient, and in fact work done by the Department of Energy a couple years ago, those were the results. It could be less. It could be far more.

Mr. LANCE. Thank you.

Mr. BAINWOL. Actually, if I could—I have seen Energy work that speaks specifically to the point of environmental value. The question, though, really is whether there is going to be more VMT or less VMT. That's the question.

Mr. LANCE. Thank you.

Well, I drive a 2004 Honda Accord stick shift with 200,005 miles on it, and maybe the next car I will buy will be one of your automobiles. But it is only 13 years old, so I think it is middle-aged regarding the Lances.

But I yield back. Thank you, Mr. Chairman.

Mr. LATTA. Thank you very much. The gentleman's time has expired.

The Chair now recognizes the gentlelady from California for 5 minutes.

Ms. MATSUI. Thank you very much, Mr. Chairman, for having this session here today. As I said earlier, I believe we all have the same goal here. We all want to get autonomous vehicles on the road so we can begin to reduce the number of deaths on our roadways.

I just want to make sure that as we work on a policy framework that allows for the deployment of AVs we ensure that States retain their traditional ability to keep the roadways and residents safe.

We also need to create a level playing field that allows all innovative companies to compete. Competition means that the market will ultimately decide who is able to deliver the most consumer-friendly AV technology.

As we all know, as I said before, historically States have regulated drivers while NHTSA has regulated vehicles. But now the vehicle is the driver.

There are a number of situations where this could cause confusion. For example, today States are able to verify owner insurance information with a human driver. But if there isn't a human driver, the vehicle itself will need to present its insurance information.

Further, AV software must be designed to comply with each State's traffic laws.

Lastly, in order for law enforcement to identify a vehicle as highly automated, States may need to require the labelling of automated vehicles as part of the vehicle registration process.

All of these situations could overlap with the regulation of vehicle design and communication systems, which is preempted in today's legislation.

Now, I would ask all our witnesses do you believe the draft legislation should provide States with a limited exception, allowing them to create requirements that fall within these precluded areas but only when necessary to perform essential State functions?

And starting with Mr. Bainwol—quick answers, please.

Mr. BAINWOL. I am the nonattorney on the panel. But I think we should respect the traditional roles of the States and the feds, and to the extent those are implicated they should be protected.

Mr. MORRISON. Two answers. One is it is not the traditional versus the nontraditional so much as the areas where NHTSA is not regulating versus the areas where NHTSA is regulating.

Ms. MATSUI. Exactly.

Mr. MORRISON. Second, I want to raise a point on this preemption. What about localities? Should a locality have any authority to say that testing of vehicles or even deployment of these vehicles under an exemption cannot be permitted in the streets of our town or can only be permitted away from the schools or at certain hours of the day.

It is very unclear. The preemption provision in LEAD'R talks about traffic laws, and I would call that a traffic law. I am not sure that the industry would call it a traffic law but it is an important question which you would want to talk to your constituents about whether you should have some say in these vehicles coming and when they're coming and going.

Ms. MATSUI. I understand, and I would like to hear from the rest.

Mr. Strickland.

Mr. STRICKLAND. Thank you, Ms. Matsui.

I think, frankly, that directionally speaking, the LEAD'R Act is taking the right approach and making sure traditional roles are maintained.

I think there needs to further discussions about those gap areas that Mr. Morrison is talking about. But I do think directionally speaking the LEAD'R Act is taking the right approach and we are looking forward to having further conversations.

Ms. MATSUI. Well, I am asking for limited exceptions here. Are you in favor of that?

Mr. STRICKLAND. I think the question is ultimately the situation and the time in terms of what you're looking for. I think specifically speaking I think, frankly, industry looks for regulatory certainty and I think a broader approach to make sure we don't have a patchwork assurances in terms of speed but, clearly, we can certainly understand situations where there may be conversations about particular areas where there is a vacuum.

Ms. MATSUI. Absolutely.

Mr. WALLACE. To answer your question, I would say yes and I would also say that States should be able to take action to protect their citizens where they're not already protected.

Mr. DAY. Thank you for the question.

I believe that the legislation as prepared and written and proposed is sufficient at this point in time. I think it is evolving, and it is something that we should continue to monitor and work on.

Mr. BOZZELLA. I think we need to strike the right balance between the existing Federal requirements to determine what a national vehicle market looks like and design and performance standards while maintaining the States' traditional roles.

I think that is important. I think the legislation does strike the right balance, and we'd be open to a conversation to learn more about your concerns.

Ms. MATSUI. And my concerns are, I think, concerns of the public, too, and so I think it is important to address them and not be put in a box here because I think we really need to have these discussions and I truly believe this is really the beginning of the process, and I think it is really very important.

I am now running out of time, but I want to ask another question here. Tech companies in California have been leaders in the push to develop AVs. It is important that they are able to test their technologies in a responsible manner, whether on their own or in partnership with traditional automakers.

Now, the MORE Act is intended to open up testing to more innovators in the AV space. Mr. Strickland and Mr. Day, do you believe the text of the bill adequately allows tech companies to test?

Mr. STRICKLAND. I think there needs to be—frankly, I think we have an opportunity to think about decreasing discrimination between the tech companies and the OEMs, and I always want to sort of use, in a quick example, Uber and Lyft.

Just a few years ago, those were fairly small companies that had limited impact. They deliver millions of rides a day. So you can't necessarily think about what is a small new entry versus what is an evolved company and making sure that we have—once again, the right balance is very important in terms of making sure that we have equity and competition.

Ms. MATSUI. Thank you.

Mr. Day, quickly. I am over time now.

Mr. DAY. I agree, and I think when you look at the rideshare programs like Lyft and Uber, that will be one of the first ways that we are going to be able to test this technology, and I think that will be sufficient as it is related to the MORE Act.

Ms. MATSUI. OK. Thank you very much.

Mr. LATTA. Thank you very much. The gentlelady's time has expired.

The Chair now recognizes the gentleman from Kentucky for 5 minutes.

Mr. GUTHRIE. Thank you, Mr. Chairman, for yielding and Mr. Strickland just said the right balance. I think a lot of things that we are looking for how do we get to the right balance.

My questions are going to be on the exemptions. In your testimony you mentioned the numerical and temporal limitations on exemptions under current law.

So kind of a complex question here, I guess. But one, I know you talked about it in your testimony but if you could further explain how the exemptions strike the right balance between one's safety and innovation, so we want to make sure that you have the right balance for safety.

Second, can you explain why the limitations, once that they are safe, why the limitations present concrete obstacles to the development of deployment of self-driving cars and how will increasing the number help move that deployment forward?

Mr. STRICKLAND. Yes, sir. The National Highway Traffic Safety Administration makes its decisions based upon data—whether or not they are going to take a rulemaking posture, whether they're going to think about creating a change to the new car assessment program and once again acknowledging Administrator Claybrook's fine work—program began under her time—all those things need data. The only way you get data, frankly, is deployment and usage, and that generates those necessary components.

So the smaller, more limited the opportunity we have to test and deploy these technologies, making sure that once again within they prove equivalent safely or overall safety to the vehicle, which is already stated in law, so we are not sacrificing safety but generating the data where needed to make wise decisions about this technology in the future.

And the reason why it is a concrete obstacle now limited to 2,500 vehicles over a 2-year period there is no way you're going to be able to generate the type of data information needed for, frankly, the companies to be able to innovate thoughtfully and, frankly, the agency to learn about those technologies.

Mr. GUTHRIE. So increasing the exemptions can be done in a way that balance and strike with, say, on balance and safety?

Mr. STRICKLAND. Absolutely. Absolutely.

I don't think there is anyone on this panel that works with the manufacturing community or the tech community who is going to sacrifice safety and NHTSA has the authority under current law to make sure that those exceptions are thoughtfully applied for, thoughtfully and conservatively granted and making sure it generates data without sacrificing the safety of the driving public.

Mr. GUTHRIE. Thank you. Thank you for that answer.

Mr. Day, could you please explain how the current regulatory structure at NHTSA presents obstacles to the self-driving car industry that may result in America falling behind other nations with respect to the development of this technology?

Mr. DAY. You know, as I said in my comments earlier, there is a significant reason for concern and I think when you're looking at—for example, in the State of California the DMV recently issued 34 permits for autonomous vehicle tester program and of those 34, 12 are from foreign countries.

And so I think this is a, you know, another issue where we are looking at potentially 50 different State regulations that apply to this and causing further delay and the longer that we, you know, prolong this effort it is going to cause more concern globally and the competition is real.

Mr. GUTHRIE. Anybody else want to comment on that, that question of the current regulation at NHTSA?

If not, then I will yield back my—so those are my two questions I prepared. I yield back my time.

Mr. LATTA. Well, thank you very much. The gentleman yields it back.

The Chair now recognizes the gentleman from New Jersey, the ranking member of the full committee, for 5 minutes.

Mr. PALLONE. Thank you, Mr. Chairman.

I have heard concerns that this legislation as written would prevent States from regulating autonomous vehicle safety without a guarantee that NHTSA would step in.

In Mr. Day's testimony, he pointed out that Americans strongly prefer a Federal standard when it comes to laws governing autonomous vehicles, but in this current package of bills there is no standard and there are no governing laws.

So I wanted to ask Mr. Wallace initially what are the risks to consumers if States are preempted from regulating AV safety and NHTSA does not take action to fill that vacuum?

Mr. DAY. Sure. Right now, there are no NHTSA regulations on the books protecting consumers from cybersecurity risks when they hit their vehicles.

There aren't any standards on the books regarding cars that may lead consumers to lose attention in the driving task and, two, there aren't any standards in place to make sure that the car ensures that they stay plugged in.

There aren't any standards in place to make sure that companies, manufacturers, suppliers, others, submit enough date for NHTSA to be able to assess whether a brand-new technology is safe on the road or not, and all of these are of great concern and, as long as those standards aren't in place at the Federal level, we think States should still have the opportunity to act on behalf of their citizens.

Mr. PALLONE. And then, Mr. Morrison, in your written testimony you said that you don't know of any laws where Congress has preempted States from acting on an issue where no Federal agencies have taken action. Is that correct?

Mr. MORRISON. That is correct.

In my view, it raises serious constitutional questions. The supremacy clause of the constitution says Federal law shall be su-

preme. If there is no applicable Federal law, how can it be supreme, and that is the question we will have to answer.

Hopefully, we won't get to that point—that the Federal Government will step in and issue standards. May I say—a followup to what Mr. Wallace just said—I think it is important to understand, in the past when safety innovations have been introduced, they haven't fundamentally changed the experience of the driver and the car.

We haven't had to qualify drivers the way we would have to now. I would be frightened to death if I got into one of these cars and just went off on my own.

But if start allowing the deployment phase with no regulation of the vehicle and no required testing of the driver to see that she or he is capable of driving these vehicles, I am afraid that whatever the safety standards are trying to be built in by the industry we are going to have a lot of problems on the highway, particularly because, as the gentleman pointed out a few moments ago, he has a vehicle that is 13 years old.

It will be a long time before we have autonomous vehicles that comprise the whole fleet, and meanwhile we'll be having a mixed fleet of vehicles, some of which will be autonomous and some the kind of cars that we are all driving now.

So before we get to the deployment stage when we are starting to allow individuals who are not specially trained to operate these vehicles I think we have to be very, very careful and the real dangers of both injuring people but also injuring the program in the long run by undermining consumer confidence.

Mr. PALLONE. Thank you.

Now, we know the Trump administration has not appointed a NHTSA administrator or an acting administrator. The agency doesn't even have an employee who could testify today on major legislation that directly affects it.

So let me ask Mr. Wallace in the time remaining, are you concerned that NHTSA may not have the resources or inclination to develop a Federal standard on AVs without direction from Congress?

Mr. WALLACE. History, including very recent history, has shown that NHTSA is most likely to take action when Congress tells it to do so and so I think that Congress should recognize that and recognize that, if there are actions that the agency needs to take, especially if they pertain to safety standards, it is going to need to ask NHTSA to do it. It is going to need NHTSA to take that action.

Mr. PALLONE. All right. Let me ask you two things at once because you only got 40 seconds. Why is it so important that NHTSA take an active role on autonomous vehicle regulation going forward and what action should NHTSA take next to ensure safe deployment of autonomous vehicles? That's for—I guess, for Mr. Wallace again.

Mr. MORRISON. I think the first thing it should do——

Mr. PALLONE. Would you rather answer?

Mr. MORRISON [continuing]. It should undertake a commitment to start down the process of starting to develop Federal standards. If it doesn't start that process it is never going to finish it.

It has a serious resource problem, and I would point out that the resource problem is going to be intensified if these exemptions are all being given.

After all, as several of the witnesses have pointed to today, these vehicles are not one size fits all and therefore NHTSA will have to carefully examine each application and I don't think it has the resources to do that now and it is going to be under tremendous pressure to let these cars go on the road and be deployed and I am very worried about that for the driving public.

Mr. WALLACE. And very briefly, just to add to what I said, if Congress asks NHTSA to take on new responsibilities or to do new tasks, like I said, this is a chronically underfunded, underresourced agency.

Congress should include funding for the agency if it asks the agency to take on new matters.

Mr. PALLONE. Thank you. Thank you, Mr. Chairman.

Mr. LATTA. Thank you very much.

The Chair now recognizes the gentleman from West Virginia for 5 minutes.

Mr. MCKINLEY. Thank you. Thank you, Mr. Chairman, and this has been one of the more interesting panels. This is probably the fourth or fifth panels that we've had on this subject and it is one of the two engineers in Congress.

It is a fascinating dialogue about all of this. In fact, we are going to have a conference this fall back in the district over this subject because we want to explore this further.

But I do have some issues or concerns that perhaps go beyond this legislation because I have all the confidence that we will develop a bipartisan approach that will develop this. But I am looking at maybe from 30,000 feet perhaps on something.

Mr. Bainwol, maybe it goes back to you. One of your charts that you put up showed that there was an increase in accidents or deaths in the last few years. Can you just give me a real short version of what's caused that uptick in numbers?

Mr. BAINWOL. So there has been a tick-up and it is beyond VMT. We have looked at it preliminarily and we can't give you a totally conclusive explanation but there are a number of factors that are clear.

One is distraction. We think it is about 10 percent of the challenge. It is also older drivers and older cars. There's an enormous correlation between the age of the car——

Mr. MCKINLEY. OK. If I could jump in on that, because that is really where I wanted to go is if we have available technology right now to address some of that with seatbelt legislation, possibly glare-proof windshields, breathalyzers that we can use, why aren't—why isn't the—why aren't the manufacturers using that as the first step instead of taking this giant leap over into self, you know, automated cars?

Mr. BAINWOL. Well——

Mr. MCKINLEY. Is it the cost? Because, when I talk to the auto dealers, that is what they tell me. People can't afford all of these provisions.

Mr. BAINWOL. There are a range of factors. One is cost. The price of a vehicle has gone up fairly dramatically and much of that is re-

lated to compliance and it is becoming increasingly difficult to afford. So that is a part of it.

But there is also the question of what the end result of the investment is, and in my oral I showed that pyramid and the existing challenge that relates to the car is 1 percent. Ninety-nine percent has nothing to do with the car. With self-driving you can deal with the totality of the problem, and so the prize there is critical.

Mr. MCKINLEY. And given, again, the time frame here—we have this constraint on it—so we talked a little bit about costs, and we haven't as a board or as a panel here, we haven't really gotten into that other than I have asked that in the previous groups about what is the cost, and everyone says they will get back to me and I am going to say three months later no one has gotten back to me, because what I was raising the question was, this has to increase the cost to a household, and for a family in Connecticut or Maryland that has a $70,000 annual house—that is their average in Maryland. But in Mississippi it is barely $37,000.

How are people supposed to afford newer cars, especially when you also looked at one of your charts that you talked about—the older the car, the more liable there is going to be a problem with it.

So how are we going to do this? Do you think the automobile's business plan, their strategy here—maybe called your business case—is assuming that ultimately we are going to go to some kind of subsidy or tax credits for consumers to be able to have an automobile?

Mr. BAINWOL. That is not part of any strategy. The——

Mr. MCKINLEY. Do you think that could ultimately lead to this? Because, if they're going to increase costs of the cars, how are they going to be able to do that or maintain them, keeping in mind that many States across the country don't even have automobile inspections.

Now we are going to put this very sophisticated car on the highway without any inspection of that car.

Mr. BAINWOL. The early phase of adoption will be through services like Uber and Lyft and Chariot and Maven, and because of that the costs to the consumer will actually be lower than today's use of the vehicle.

Down the road, as the technology matures, the price point will drop. So the blend of access versus ownership models will evolve. But the first experience, as I think Tim alluded to, will be through the ridesharing application, and there the cost will be low.

Mr. MCKINLEY. So, just for the record, you don't think that the automobile industry is ever going to ask for some subsidy or tax credit so that new buyers will be able to acquire an automobile with this kind of automation with it?

Mr. BAINWOL. I have never been part of conversation where the concept has been broached.

Mr. MCKINLEY. All right. Well, I am curious about it because there is a reason that there are older cars on the highway—that people can't afford them—and now we are going to impose this new standard.

Again, I am fascinated with it. I think it is where we are going to be. But I am still hung up a little bit on how we get to there

from a macro view. And we will take care of the regulations on that but how is it going to affect our economy let alone, as Schakowsky mentioned earlier, 4.1 million people losing their jobs that are drivers. I am really curious about the big scheme.

Thank you very much. I yield back.

Mr. LATTA. Thank you very much. The gentleman's time is expired, and the Chair now recognizes the gentleman from Vermont for 5 minutes.

Mr. WELCH. Thank you, Mr. Chairman. Thank you for calling this hearing and I want to thank the witnesses for great testimony.

There, I think, is a universal agreement that we'd like to have our car manufacturers be the first. We are in agreement that we want safety to not be compromised.

The background here, though, where I think, ultimately, when we put pen to paper there is a difference, is putting any confidence in an organization—governmental entity—that has some responsibility to say the car is good to go, because there is an apprehension among many that, where you have a regulatory agency, it is going to delay the deployment and it is going to increase the cost. That's the divide here.

But bottom line, at a certain point if these are going to be deployed some entity has to decide yes, it is good to go. So I just want to ask, Mr. Bainwol, who would be the decider that the fleet is ready to go on the road?

Mr. BAINWOL. Well, it is NHTSA. I mean, the exemptions will not be enforced unless NHTSA makes the decision to approve them. And I just want to make a point on that.

Mr. WELCH. OK. All right. So, you know, I will let you get to that. But the bottom line, what you're saying is this public organization is the one that has the final say this car goes on the road?

Mr. BAINWOL. It is the safety organization, and I do want to make a point that has been lost in the last few minutes—that is that NHTSA has broad enforcement and defect authority that applies not just when there is a standard but in the absence of standards when it is an exemption, when it is a test.

Mr. WELCH. All right. So what, in your view, does NHTSA need in order to most effectively do the job of protecting public safety? Because, by the way, if we don't have this done right, if we go too fast, one of two things is going to happen.

There's going to be big delays because there will be a reservation to act or there will be a disaster because we acted too toon. And if I were on the manufacturing side, the last thing in the world I would want is some spectacular crash that totally compromises public confidence that this is good technology.

So what does NHTSA need in order to do its job? Because a lot of folks in this building think the best thing for NHTSA is to starve its budget.

Mr. BAINWOL. It needs its existing authority. It needs to be properly budgeted and that is a congressional point, and it needs to act when it feels it needs to.

Mr. WELCH. Would the auto industry be willing to have like a contribution to funding NHTSA to boost its capability to do this work?

Mr. BAINWOL. We could talk about it. I mean, it is not something we have discussed. But let me point out——

Mr. WELCH. I am sorry. We only have 5 minutes. I wish I could hear more, but I am limited.

Mr. Strickland, how about you?

Mr. STRICKLAND. Current authority, frankly, is very broad, and I think it is very effective in this case. Also remember, Congressman, that NHTSA requires a self-certification of compliance to the standards.

So for the past 50 years, basically, the automakers have to say that, yes, our vehicle complies with all the Federal Motor Vehicle Safety Standards and then NHTSA goes out and tests for compliance randomly.

So your suggestion of a type of approval of where NHTSA sort of signs off on the fleet before it is deployed would be dramatic change in the law that is, frankly, unprecedented and actually creates new problems in and of itself. I think——

Mr. WELCH. Well, I actually don't want to create problems. But I want to, like you, ensure safety. So would NHTSA need access to more of the data?

I mean, there is always a proprietary argument about the data but how can the entity that is charged with certifying safety act without access to that data?

Mr. BAINWOL. NHTSA has access to the data. Basically, they have relationships with all the manufacturers to be able to get confidential business information. They have information requests.

There's lots of opportunities for them to get the data they need. That's one of the aspects of the Federal Automated Vehicle.

Mr. WELCH. So your view would be that, whatever NHTSA needs datawise, they should get in order to certify.

Mr. BAINWOL. No. There are certain things that, frankly, I think that NHTSA is going to have to justify why they need particular data points. But in terms of safety, if there is an issue, NHTSA has the opportunity to ask for and then be able to get it.

Mr. WELCH. Is your concern about proprietary information leaking out?

Mr. BAINWOL. NHTSA has an excellent record in protecting proprietary data. The issue is ultimately going to be whether or not there being some ways to compel proprietary and confidential data to be propelled outside.

Mr. WELCH. Well, I don't know how we—you know, Mr. Chairman, for me, I see this as a practical issue and not an ideological issue.

We have got to be certain that the public feels confident that these self-driving vehicles are safe. We all know that. It has got to happen.

So I would have less confidence if the organization we've assigned the responsibility to say "OK, it is good to go" didn't have the information that it wanted, and I am reassured by you that I am hearing that NHTSA has a good record of——

Mr. STRICKLAND. They have an excellent record.

Mr. WELCH. Yes. Well that is great——

Mr. MORRISON. May I point out?

Mr. WELCH [continuing]. And it is the way it should be.

Mr. MORRISON. I'd point out, Mr. Welch——

Mr. WELCH. Yes, go ahead.

Mr. MORRISON [continuing]. That the EXEMPT Act provides that all of the date submitted in connection with these highly autonomous vehicles shall be exempt from public disclosure as confidential business information.

Contrary to the standard practice for years in which NHTSA has been able to exempt a limited amount of trade secret information.

This would be a complete reversal and the public would have no confidence whatsoever that NHTSA was doing the right thing because all this information would be secret.

Mr. WELCH. Right. Yes. I only have a few more seconds. I guess I don't have any more seconds.

[Laughter.]

I will just say this. I appreciate the panel, all right, and I appreciate your leadership here. We want to get this done. Some of these practical challenges I think lend themselves to a quiet working group as opposed to kind of a contested approach.

So I thank you, Mr. Chairman. I thank the witnesses.

Mr. LATTA. Thank you very much for the gentleman's discussion.

The Chair will now recognize the gentleman from Illinois for 5 minutes.

Mr. KINZINGER. Thank you, Mr. Chairman, and thank you all for being here and taking your time with us today. It is important.

A couple of points I want to make right off the bat. Safety is the most important thing in all this. I think this is the jump to safety that we've all been looking for.

Illinois lost 998 fatalities last year, up 8 percent from the prior year. Those are a thousand lives that theoretically could have been saved through this.

The other big important point to remember is that this is happening. It is just like with cell phones. I remember in '96 I went to Germany and as an 18-year-old and saw that they were texting for the first time and was awed by that, and they were leading the United States in cell phone technology.

Well, we were able to grab that back and now we basically lead the world on that kind of stuff and this is the competition we are in in self-driving cars. This is a competition against China, against Europe.

We all kind of want to work together, but we also want to be the first in leading this technology, and so I think that is an important point to remember, even as we think about the employment implications, which I think we need to do a lot of work to figure out how to handle that, because that is coming.

Mr. Bozzella, Germany has enacted a law that is paving the way for autonomous vehicles on public roads and the U.K. is working on legislation as well, and I can imagine that across the globe nations are updating their regulations to allow testing and operation of autonomous vehicles on public roads.

How do today's proposals improve the U.S. competitiveness and ensure that we remain the leader in this technology?

Mr. BOZZELLA. Well, thank you for the question, Congressman, and I appreciate, first, the sense of urgency here in Congress and with this subcommittee, because it is really important.

There is a competition taking place. It is happening all around the world. What you're doing here with this framework is you are providing a flexible and nimble opportunity to deploy technology while at the very same time assuring the public and the regulator that we are doing this in the safest possible manner and you are doing this in a couple ways.

One is, you are building on the notion of safety assurance. This is important. The regulators already recognize that.

Secondly, what you're doing is you are assuring safety by giving the preeminent safety regulator the ability to get this technology on the roadway only if we can assure that we are producing equivalent safety and you are also allowing the regulator to build the database so that they can update their rules which were, frankly, set up in the world of mechanical automobiles.

That's what you are doing. It is really important we appreciate it.

Mr. KINZINGER. Thank you.

Mr. Strickland, the Safe Driving Coalition supports the four proposed bills to expand NHTSA's authority to permit more highly autonomous vehicles on public roads for testing and for deployment.

In regards to the MORE Act, can you explain the benefits of expanding the eligible testing entities to include equipment manufacturers, suppliers, universities and new market entrants?

Mr. STRICKLAND. Frankly, you need—and you don't know where your next innovation is going to come and to be able to have the opportunity to thoughtfully test and test safely and deploy safely in order to generate data and, frankly, new opportunities for innovations to enter into the space is crucial.

Level 4 and level 5 vehicles are farther away. Often, you talked about no driver being a part of the driving task ever and level 5 is in all conditions: rain, snow, sleet, et cetera.

So you are going to need opportunities to make sure that you can thoughtfully test and deploy these technologies and a broad way to collect data which benefits both the agency, NHTSA, and benefits, frankly, all the innovators and manufacturers.

Mr. KINZINGER. Thank you.

I think it is important to note with all that too we can never foresee what technology and innovations come along or it wouldn't be called innovation.

It would just be called stuff we know, and so it is important to set the framework for these smart ideas and, unfortunately, we would like to admit that the 435 of us here can come up with the best ideas but we can't and people out there can, so provide that.

Last question for Mr. Day. In your testimony, you state that exemptions are critical to the industry with respect to self-driving cars.

Can you explain by exemptions are critical at this stage in the development of these cars and do you see a benefit to create new exemptions specifically tailored to self-driving cars?

Mr. DAY. I don't think we need new exemptions, and thank you for the question. I appreciate your leadership on the committee and I look forward to discussing this issue further but I think exemptions are one way and I think along with preemption of really get-

ting us on the right track and I think it is something that we need to explore.

I think there is another, you know, way of exploring these issues and we should be looking at how they complement each other, going forward.

Mr. KINZINGER. Well, thank you. Thank you all for being here, and I will make up for Mr. Welch going over by yielding back 26 seconds.

Mr. LATTA. OK. The gentleman yields back the balance of his time.

The Chair now recognizes the gentlelady from California for 5 minutes.

Ms. ESHOO. Well, thank you, Mr. Chairman, and especially for extending legislative courtesy to me to participate in this subcommittee hearing, which I am not a member of, but the issues is of great importance to me, to my constituents and certainly our country. So thank you to all the witnesses and thank you, Mr. Chairman.

As the member of Congress having the great privilege to represent Silicon Valley, I am proud to have essentially a front row seat in the next great revolution now in transportation.

Everyone from the major domestic and foreign automakers to large tech companies and small start-ups are developing AV technologies in Silicon Valley. I have driven on Interstate 280—I don't know how many of you have ever been on it; it is billed as one of the most beautiful freeways in the world—in a Tesla on autopilot with my heart in my throat. It was on autopilot mode. And I have ridden in a self-driving vehicle developed by a start-up in an old fire station in Menlo Park.

In my view, consumer confidence should be the number-one priority of both the automakers and we, the policymakers, that want to speed deployment of AVs.

Autonomous vehicles have the potential to revolutionize mobility, safety, urban planning and transportation around the world and I want to see America be the leader—the unquestioned leader in this.

But if consumers don't have confidence in the technology or the policies and the safety regulations that govern it, I think that they'll be hesitant to turn over the controls to a computer.

So I think a very important part of ensuring this confidence is passing the fully bipartisan legislation that will lead to evidence-based regulations by the expert agencies, obviously, instructed by all of you as well.

When Congress first created the Federal Automotive Safety Standards in 1966, the law passed nearly unanimously and I think that we should draw from that and be inspired by it.

The bills before us today represent policy by preemption and exemption rather than directing rulemaking to guide the safe deployment of this technology.

Now, I recognize that there will be some preemption because traditionally the Federal Government has regulated the vehicle through safety and design standards while the States have regulated the driver through licensing and insurance.

So we have a key role in this. But in an autonomous vehicle, the vehicle is the driver. So the issue of preemption I think by that very definition becomes more complicated.

Today, there are, roughly, the same amount of traffic fatalities in the United States as in 1956, the year that Congress authorized the interstate highway system.

So I think AVs have the potential to save thousands of lives, but consumers won't have confidence in the technology unless they have a sense that their safety is paramount in both the policy and the technology.

So thank you again, Mr. Chairman, for extending the legislative courtesy to me. I want you to know that I want to very much be involved in helping to shape the policy. This, clearly, needs to be bipartisan and that in and of itself is going to project a message of confidence to the American people in this.

And with that, I will yield back—oh, I have finished all of my——

Mr. LATTA. Well, our technology isn't quite working today.

Ms. ESHOO. Did you speed it up? Did you speed it up? Was this on automatic pilot? Maybe it was autopilot mode.

But at any rate, thank you very, very much.

Mr. LATTA. Well, thank you very much. Appreciate the lady's——

Ms. ESHOO. An important hearing, and I look forward to working with you on it.

Mr. LATTA. I appreciate the lady's comments.

The Chair now recognizes the gentlelady from California.

Ms. WALTERS. Thank you, Mr. Chairman.

Consumers' willingness to get into a self-driving car or feel about having their family members ride in a self-driving car is one of the most popular topics in news stories about self-driving cars.

Consumer education seems to fit naturally with consumer adoption and the public's willingness to try out a new technology that interacts with lots of older cars on the road.

The average lifespan of a vehicle recently increased to 11 years on the road. In addition, we are still years away from the first limited commercial deployment of self-driving cars.

Mr. Bainwol, what role do you see for industry communicating with their consumers about self-driving cars?

Mr. BAINWOL. We have a role and some of this is, you know, informally when you buy a car and have kind of a tutorial.

The one thing I would note about consumer acceptance is, is there is a relationship between the number of driver assists that you've experienced and your attitude about self-driving?

And so to some extent, over time, as your constituents experience more and more driver assists, the reaction to self-driving transforms in a dramatic fashion. If you have had no experience with driver assists, your attitude is very negative. If you have had lots of experience with driver assists, you have a totally different reaction.

Ms. WALTERS. Do we know enough about the cars that will be on the road to set parameters for the Government to begin educating the public about self-driving cars?

Mr. BAINWOL. Conceptually, yes.

Ms. WALTERS. OK.

Mr. Day, in your testimony, you warn against too much specificity with regard to Government standards. Why do you believe there is an inherent danger in providing for very specific standards for technology such as self-driving cars that is continually evolving?

Mr. DAY. Thank you for the question, and I think we need to kind of step back. I think a lot of the questioning here today—we are at the beginning stages of this technology, and while we are conceptually aware of what the technology brings there is still a lot of questions to be answered, hence the importance of the testing that we are talking about and having the general framework by which we should have established to go forward.

And so I think, you know, part of what I am trying to do at C–TEC within the U.S. Chamber of Commerce is to work with our State and local chambers and our member companies on truly messaging what they know now and making people feel more comfortable with the technology to understand it, to appreciate it, and to really understand and appreciate the benefits to the disabled, senior citizens, et cetera, and to keep drunk drivers off of the road.

Ms. WALTERS. OK, and then I have another question for you.

In your testimony you mention a study conducted by Intel on the economic impact of self-driving cars. Can you please discuss what the study looked at and its results?

Mr. DAY. I do not have that in front of me but I would be happy to share that with your office after this hearing today.

Ms. WALTERS. OK. Thank you, and I yield back the balance of my time.

Mr. LATTA. Thank you very much. The gentlelady yields back the balance of her time.

And now the Chair recognizes the gentleman from Texas. I am sorry for getting the order mixed up there. But you are recognized for 5 minutes.

Mr. GREEN. Thank you, Mr. Chairman, and I would hope that clock would make sure.

I want to thank the committee for the diligence we have been doing and as a member of it, but I was running back and forth between Energy and Healthcare. But I want to thank the Chair and the ranking member for this.

I want to experience in our country with some type of self-driving vehicles. You have Governors on certain trucks or certain vehicles, but this is a whole new experience, and I think national standards and the safety ought to be the bottom line on anything.

Mr. Morrison, in your testimony you mentioned there is a number of proposals before NHTSA currently that would enhance safety of all vehicles currently on the road.

Could you please talk about these proposals briefly, because I only have 5 minutes, and tell us what you think these proposals—why they haven't received much attention.

Mr. MORRISON. I am sorry. I can't be specific about the details of these proposals. I know that they are there. They are on the DOT's docket. I think Wallace can help you be more specific.

But the principal problem has been two things—number one, the will of the agency to proceed, the unwillingness of the companies to put the kind of safety first message that they have had here

today and, of course, finally, the question of resources for the agency.

Mr. GREEN. Like I said, the only experience we have in somebody controlling the vehicle we are driving is very limited.

Mr. Wallace, automated vehicle innovations gathered steam over the years, and you voiced concern about level 2 and 3 vehicles that still require an occasional human intervention.

Is there a way we can blend that together? And let me tell you one joke. When I was a young State legislator in the '70s, my wife's grandmother said, "I don't like to drive on the roads where we have the older road trucks—can we build a separate freeway for them?"

And I said, "Well, the gas taxes would really be high if we had to do that." But having one lane for automated vehicles and maybe other lanes for those of us who may not be driving an automated vehicle.

Mr. WALLACE. Thank you, Congressman.

I am not sure about different lanes, but what I can tell you is that given our concerns about level 2 and 3 vehicles, automakers and dealers will need to be very clear with consumers about what they can and cannot do because too often we have seen marketing or other types of publicity about cars that have driver assist technology and portraying them as self-driving cars when they are not, and we are very concerned that that could lead to problems on the road.

Mr. GREEN. And that is what I know the committee doesn't want, and that is why we are giving real good diligence to whatever we set up.

Mr. Bainwol, in your testimony you mentioned the Federal Aid to Highway Act of 1956, which allocated $24.8 billion to build about 41,000 interstate highways.

There is widespread agreement that self-driving cars will need well-maintained infrastructure to function including clear lane lines, stop lights and signage. Can you talk about what infrastructure investments you and your members anticipate will be needed to ensure that self-driving vehicle technology can work?

Mr. BAINWOL. So self-driving will be a product of the algorithms of the and the external environment, and so the external environment matters a ton.

The simplest of eternal factors is the clarity of the white lines in the lanes. And so that is a fundamental kind of basic.

But if you move further down the road, things like vehicle-to-vehicle communication, vehicle-to-infrastructure communication, so there are a number of implications for infrastructure down the road.

Mr. GREEN. Well, I will give an example right now and I think everybody is familiar with Waze in the Houston area I grew up there and I know how to get around traffic. Waze may give us one way.

Would that automated vehicle take that, you know, from the computer and this is the quickest way instead of the driver having any input?

Mr. BAINWOL. There will be some application like Waze or Google Maps or some other proprietary mapping nav service that would dictate the route in the fastest, most efficient way.

Mr. GREEN. Thank you, Mr. Chairman. Again, I thank the committee for their diligence.

Mr. LATTA. Thank you very much. The gentleman yields back the balance of his time.

The Chair now recognizes the gentleman from Pennsylvania for 5 minutes.

Mr. COSTELLO. Thank you, Mr. Chairman.

I want to get a couple things on the record so I will be as quick and, hopefully, you can be as direct as possible.

Mr. Bozzella, buying a car can be very expensive and public transportation options are not available or sometimes inadequate in many communities.

Do you see self-driving cars playing an important role in providing better, more reliable mobility options to those who must rely solely on public transportation?

Mr. BOZZELLA. Absolutely. Yes, I do.

Mr. COSTELLO. All right.

Mr. Day, in your testimony you state that self-driving cars will benefit American seniors. Can you please explain how this technology will help senior citizens remain independent?

Mr. DAY. A number of ways. You know, my parents in Ohio in their 80s would benefit by having—perhaps if they are not able to drive at some point in their future—having medicines delivered from or being able to pick up their own medications at the pharmacy.

They are able to have a car drive them to the grocery store to get their groceries. I think there is a whole host of ways, and I think that that is one segment of our society that will benefit, amongst others, as we talked about here—the disabled community as well.

Mr. COSTELLO. Mr. Strickland, for some—I am picking up on that—access to transportation is a public health issue. Often, inadequate public transportation options stand in the way of receiving care. Do you think self-driving cars will play a role in solving that problem?

Mr. STRICKLAND. Yes. I think what Mr. Day mentioned and Mr. Bozzella mentioned, the opportunities for, frankly, individual mobility for those that are disabled, those that are seniors, and have the ability to get themselves to the doctor, get to the hospital, get to the pharmacy, I think it will be transformational for them.

Mr. COSTELLO. Mr. Bozzella, related to underserved communities, just explain how you view this as being transformational.

Mr. BOZZELLA. I think there are a number of ways. One is that highly automated vehicles will enable a new business model.

Let us call it transportation as a service, and it will reduce the cost of this service and I think make it much more affordable and accessible to underserved transportation populations.

I think the other place that you will see automated technology provide mobility to underserved communities is, frankly, the ability to create more safety in rural areas by deploying level 2 and level 3 technologies on vehicles in rural areas.

So I think there are a number of ways we are going to create more transportation for underserved communities.

Mr. COSTELLO. Avis and Waymo, Apple and Hertz, we are continuing to see business partnerships evolve here. Do you expect such business dealings to promote the introduction of fleet and electric self-driving cars? Whomever wants to take that one.

Mr. BOZZELLA. I agree with that. I testified to that point earlier, and I think what will happen is electric vehicle platforms and the cost model for electric vehicles' higher upfront cost but lower operating costs will fit with a fleet-first automated vehicle strategy deployed by fleets.

Mr. COSTELLO. Another observation I have is, you know, a car driving itself ultimately is going to see to it that everybody is going to have that technology accessible.

But the software side of this, you know—we can just look at antitrust litigation within the space of certain companies owning certain software and whose computer systems it can get on.

I see the day when it is the software piece of this and updates and a new type of application or a new software product wanting to make its way into one specific car or a fleet of cars.

Share with me, if anyone has these thoughts, about how to shape legislative policy so that we are not walking into the day when we are going to be dealing with that set of issues, which, obviously, has been front and center in the traditional tech world for quite some time. Or is it just unavoidable?

Mr. BAINWOL. I think the simplest thing is to recognize that as NHTSA does its work it should be nonprescriptive and should be technology neutral. Let the marketplace work.

Mr. DAY. Let me just add on very quickly. I mean, again, we are at the very early stages here, and this is not the only time that we are going to be looking at legislation addressing this issue.

I think where we are right now, the legislation and the proposals that we have in front of us are adequate and as we have the testing done and as we learn more then perhaps that will, you know, require us to come back and think through some of the issues that you mentioned.

Mr. BOZZELLA. And I would just add one more comment, and it comes up in the—I believe it is called the MORE Act. I do think that you want to make sure that a number of responsible companies have the ability to test.

So not only what we would consider automakers but also auto suppliers that are increasingly developing the software you're talking about, increasingly deploying the technology that you talked about.

Mr. COSTELLO. Yes. I just wonder if there is a point in time where this just falls outside of NHTSA's jurisdiction if we are dealing in purely computer intelligence issues.

But my time has expired. Thank you for your answers. I yield back.

Mr. LATTA. Thank you very much. The gentleman's time has expired and seeing that there are no other members that are here to ask questions, I want to thank our panel today.

You can tell there is a lot of discussion, a lot of interest in having you hear before us today. Before we do conclude today I would like to include the following documents to be submitted for the record by unanimous consent: the letter from the Competitive Enterprise

Institute, letter from Property Casualty Insurers, a letter from American Car Rental Association, a letter from MEMA, a letter from CTA, a letter from Advocates for Highway and Auto Safety, a letter from Consumer Watchdog, a letter from SAFE, a letter from ITS America, a letter from NAMIC, a letter from EPIC.

[The information appears at the conclusion of the hearing.][1]

Mr. LATTA. And does the gentlelady have a——

Ms. SCHAKOWSKY. Yes, I do. I wanted to add to the record a document from the Center for American Progress, a report entitled, "The Impact of Vehicle Automation on Carbon Emissions."

And if I could just say a number of those submissions came from our side. They include important specific feedback on the 14 bills before us and what is missing from those bills, in our view, and I urge my colleagues to look closely at the submissions from safety advocates and other interested parties.

We will need to carefully weigh their concerns as we move forward, and I hope very much that this could be a bipartisan safety-focused legislative package.

I yield back.

Mr. LATTA. Thank you very much, and for the two letters the lady submitted, without objection it will be added to the list.[2]

Mr. LATTA. Pursuant to committee rules, I remind Members that they have 10 business days to submit additional questions for the record. I ask that witnesses submit their responses within 10 business days from upon receipt of the questions from the Members.

Without objection, the subcommittee is adjourned. Thank you very much.

[Whereupon, at 12:28 p.m., the subcommittee was adjourned.]

[Material submitted for inclusion in the record follows:]

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[1] The Advocates for Highway and Auto Safety letter and the Consumer Watchdog document have been retained in committee files and also are available at *https://docs.house.gov/Committee/Calendar/ByEvent.aspx?EventID=106182.*

[2] The report has been retained in committee files and also is available at *https://docs.house.gov/Committee/Calendar/ByEvent.aspx?EventID=106182.*

[DISCUSSION DRAFT]

115TH CONGRESS
1ST SESSION

H. R. _____

To amend section 30103 of title 49, United States Code, to establish sole authority for the National Highway Traffic Safety Administration over the regulation of highly automated vehicles, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

M__. _____ introduced the following bill; which was referred to the Committee on _____

A BILL

To amend section 30103 of title 49, United States Code, to establish sole authority for the National Highway Traffic Safety Administration over the regulation of highly automated vehicles, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Let NHTSA Enforce Automated Vehicle Driving Regulations Act" or the "LEAD'R Act".

SEC. 2. PURPOSE.

The purpose of this Act is to ensure the ability to test and deploy automated driving systems in the United States and expressly preempt any related State laws to prevent the testing or deployment of this technology.

SEC. 3. NHTSA AUTHORITY AND STATE PREEMPTION FOR AUTONOMOUS MOTOR VEHICLES.

Section 30103(b) of title 49, United States Code, is amended—

(1) by striking paragraph (2);

(2) in paragraph (1)—

(A) in the first sentence, by inserting after "When a motor vehicle safety standard is in effect under this chapter" the following: "for a motor vehicle that is not a highly automated vehicle";

(B) by striking "(1) When" and inserting "(2) MOTOR VEHICLE STANDARD. When"; and

(C) by striking "However," and inserting "(4) HIGHER PERFORMANCE REQUIREMENT. However,";

(3) by inserting before paragraph (2), as so redesignated, the following new paragraph:

"(1) HIGHLY AUTOMATED VEHICLES.—No State or political subdivision of a State may adopt, maintain, enforce, impose, or continue in effect any

law, rule, regulation, duty, requirement, standard, or other provision having the force and effect of law related to the design, construction, mechanical systems, software systems, or communications systems of highly automated vehicles or automated driving system equipment unless such law, rule, regulation, duty, requirement, standard, or other provision having the force and effect of law is identical to a standard prescribed under this chapter.";

(4) by inserting after paragraph (2), as so redesignated, the following new paragraph:

"(3) RULE OF CONSTRUCTION.—Nothing in this subsection may be construed to prohibit a State from prescribing a law or regulation regarding any other registration, licensing, [liability], driving education and training, insurance, or traffic law or regulation unless the law or regulation is an unreasonable restriction on the design, construction, mechanical systems, software systems, or communications systems of highly automated vehicles.";

(5) in paragraph (4), as so redesignated, by striking "or motor vehicle equipment obtained for its own use that imposes a higher performance requirement than that required by the otherwise applicable standard under this chapter" and inserting the fol-

lowing: "motor vehicle equipment, highly automated vehicle, or automated driving system equipment obtained for its own use"; and

(6) by inserting at the end the following new paragraph:

"(5) DEFINITIONS.—In this subsection:

"(A) AUTOMATED DRIVING SYSTEM.—The term 'automated driving system' has the meaning given that term in the September 2016 Surface Vehicle Recommended Practice Report (J3016) by SAE International[, or any successor report thereto].

"(B) HIGHLY AUTOMATED VEHICLE.—The term 'highly automated vehicle'—

"(i) means a motor vehicle equipped with an automated driving system; and

"(ii) does not include a commercial motor vehicle (as defined in section 31101).".

[DISCUSSION DRAFT]

115TH CONGRESS
1ST SESSION

H. R. _____

To amend section 30113 of title 49, United States Code, to increase the annual number of vehicles that may be exempted for the development of new vehicle safety features, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

M__. _____ introduced the following bill; which was referred to the Committee on _____

A BILL

To amend section 30113 of title 49, United States Code, to increase the annual number of vehicles that may be exempted for the development of new vehicle safety features, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Practical Automated Vehicle Exemptions Act" or the "PAVE Act".

SEC. 2. AMENDMENTS.

Section 30113(d) of title 49, United States Code, is amended—

(1) by striking "A manufacturer is eligible for an exemption under subsection (b)(3)(B)(i)" and inserting the following:

"(1) ELIGIBILITY UNDER SUBSECTION (b)(3)(B)(i).—A manufacturer is eligible for an exemption under subsection (b)(3)(B)(i)";

(2) by striking "A manufacturer is eligible for an exemption under subsection (b)(3)(B)(ii), (iii), or (iv)" and inserting the following:

"(2) ELIGIBILITY UNDER SUBSECTION (b)(3)(B)(iii).—A manufacturer is eligible for an exemption under subsection (b)(3)(B)(iii)"; and

(3) by inserting at the end the following new paragraphs:

"(3) ELIGIBILITY UNDER SUBSECTION (b)(3)(B)(ii), (iv), (v), OR (vi).—A manufacturer is eligible for an exemption under subsection (b)(3)(B)(ii), (iv), (v), or (vi) of this section only if the Secretary determines the exemption is for not more than 100,000 vehicles to be sold in the United States in any 12-month period.".

[DISCUSSION DRAFT]

115TH CONGRESS
1ST SESSION

H. R. _____

To amend section 30113 of title 49, United States Code, to increase the period for vehicles that may be exempted for the development of new vehicle safety features, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

M__. _____ introduced the following bill; which was referred to the Committee on _____

A BILL

To amend section 30113 of title 49, United States Code, to increase the period for vehicles that may be exempted for the development of new vehicle safety features, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Renewing Opportunities for Automated Vehicle Development Act" or the "ROAD Act".

SEC. 2. AMENDMENT.

Section 30113(c) of title 49, United States Code, is amended—

(1) by striking "An exemption or renewal under subsection (b)(3)(B)(i)" and inserting the following:

"(1) EXEMPTION UNDER SUBSECTION (b)(3)(B)(i).—An exemption or renewal under subsection (b)(3)(B)(i)";

(2) by striking "An exemption or renewal under subsection (b)(3)(B)(ii), (iii), or (iv)" and inserting the following:

"(2) EXEMPTION UNDER SUBSECTION (b)(3)(B)(iii).—An exemption or renewal under subsection (b)(3)(B)(iii)"; and

(3) by inserting at the end the following:

"(3) EXEMPTION UNDER SUBSECTION (b)(3)(B)(ii), (iv), (v), OR (vi).—An exemption or renewal under subsection (b)(3)(B)(ii), (iv), (v), or (vi) of this section may be granted for not more than 5 years.".

[DISCUSSION DRAFT]

115TH CONGRESS
1ST SESSION

H. R. _____

To amend section 30113 of title 49, United States Code to establish new exemptions for motor vehicle safety standards.

IN THE HOUSE OF REPRESENTATIVES

M__. _____ introduced the following bill; which was referred to the Committee on _____

A BILL

To amend section 30113 of title 49, United States Code to establish new exemptions for motor vehicle safety standards.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Expanding Exemptions to Enable More Public Trust Act" or the "EXEMPT Act".

SEC. 2. AMENDMENT.

Section 30113(b)(3)(B) of title 49, United States Code, is amended—

(1) in clause (iii), by striking "; or" and inserting a semicolon;

(2) in clause (iv), by striking the period at the end and inserting a semicolon; and

(3) by inserting at the end the following new clauses:

"(v) the exemption would promote the public adoption and acceptance or facilitate meaningful commercial deployment of a new motor vehicle safety feature or system and provide an overall safety level at least equal to the overall safety level of non-exempt vehicles; or

"(vi) the exemption would promote transportation access to individuals with disabilities (as defined in the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) and would provide an overall safety level at least equal to the overall safety level of nonexempt vehicles.".

[DISCUSSION DRAFT]

115TH CONGRESS
1ST SESSION

H. R. _____

To amend title 49, United States Code, to expand the exemption from the motor vehicle safety standards for testing or evaluation purposes to cover manufacturers of highly automated vehicles and automated driving systems, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

M__. _____ introduced the following bill; which was referred to the Committee on _____

A BILL

To amend title 49, United States Code, to expand the exemption from the motor vehicle safety standards for testing or evaluation purposes to cover manufacturers of highly automated vehicles and automated driving systems, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Maximizing Opportunities for Research and the Enhancement of Automated Vehicles Act" or the "MORE Act".

SEC. 2. MOTOR VEHICLE TESTING OR EVALUATION.

Section 30112 of title 49, United States Code, is amended—

(1) in subsection (b)(10)—

(A) by striking "that prior to the date of enactment of this paragraph";

(B) in subparagraph (A), by striking "motor vehicles into the United States that are certified" and inserting "into the United States motor vehicles that are certified, or motor vehicle equipment that is certified,";

(C) in subparagraph (C), by striking the period at the end and inserting "; or";

(D) by redesignating subparagraphs (A) through (C) as clauses (i) through (iii), respectively, and moving their margins 2 ems to the right;

(E) by striking "evaluation by a manufacturer" and inserting the following: "evaluation by—

"(A) a manufacturer"; and

(F) by adding at the end the following:

"(B) a manufacturer of highly automated vehicles or automated driving system equipment that agrees not to sell or offer for sale the highly automated vehicle or automated driving sys-

tem equipment at the conclusion of the testing or evaluation and—

"(i) has submitted to the Secretary—

"(I) the name of the individual, partnership, corporation, or institution of higher education and a point of contact;

"(II) the residence address of the individual, partnership, corporation, or institution of higher education and State of incorporation if applicable;

"(III) a description of each type of highly automated vehicle or automated driving system [equipment] manufactured by the individual, partnership, corporation, or institution of higher education; and

"(IV) proof of insurance for any State in which the individual, partnership, corporation, or institution of higher education intends to test [or evaluate] highly automated vehicles; and

"(ii) if applicable, has identified an agent for service of process in accordance

with part 551 of title 49, Code of Federal Regulations.''; and

(2) by adding at the end the following:

''(c) DEFINITIONS.—In this section:

''(1) AUTOMATED DRIVING SYSTEM.—The term 'automated driving system' has the meaning given that term in the September 2016 Surface Vehicle Recommended Practice Report (J3016) by SAE International[, or any successor report thereto].

''(2) HIGHLY AUTOMATED VEHICLE.—The term 'highly automated vehicle'—

''(A) means a motor vehicle equipped with an automated driving system; and

''(B) does not include a commercial motor vehicle (as defined in section 31101).''.

[DISCUSSION DRAFT]

115TH CONGRESS
1ST SESSION

H. R. _____

To amend title 49, United States Code, to require the Secretary of Transportation to notify States of exemptions of highly automated vehicles from the Federal motor vehicle safety standards, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

_____ introduced the following bill; which was referred to the Committee on _____

A BILL

To amend title 49, United States Code, to require the Secretary of Transportation to notify States of exemptions of highly automated vehicles from the Federal motor vehicle safety standards, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Increasing Information and Notification to Foster Openness Regarding Highly Automated Vehicle Matters to States Act" or the "INFORM Act".

SEC. 2. NOTIFICATION TO STATES OF EXEMPTIONS OF HIGHLY AUTOMATED VEHICLES FROM MOTOR VEHICLE SAFETY STANDARDS.

Section 30113 of title 49, United States Code, is amended by adding at the end the following:

"(i) NOTIFICATION TO STATES OF EXEMPTIONS OF HIGHLY AUTOMATED VEHICLES.—(1) Not later than 30 days after granting under this section an exemption of an highly automated vehicle from a motor vehicle safety standard prescribed under this chapter or a bumper standard prescribed under chapter 325, the Secretary shall notify, by whatever means reasonable, an appropriate authority in each State of such exemption.

"(2) In this subsection—

"(A) the term 'highly automated vehicle' means—

"(i) a motor vehicle equipped with an automated driving system; and

"(ii) does not include a commercial motor vehicle (as defined in section 31101); and

"(B) the term 'automated driving system' has the meaning given that term in the September 2016 Surface Vehicle Recommended Practice Report (J3016) by SAE International[, or any successor report thereto].".

[DISCUSSION DRAFT]

JUNE 6, 2018

115TH CONGRESS
1ST SESSION

H. R. _____

To establish in the Department of Transportation a Disability Mobility Advisory Council to make recommendations regarding advancing mobility access for the disabled community with respect to the testing and deployment of automated driving systems.

IN THE HOUSE OF REPRESENTATIVES

_____ introduced the following bill; which was referred to the Committee on _____

A BILL

To establish in the Department of Transportation a Disability Mobility Advisory Council to make recommendations regarding advancing mobility access for the disabled community with respect to the testing and deployment of automated driving systems.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. DISABILITY MOBILITY ADVISORY COUNCIL.

(a) ESTABLISHMENT.—Subject to the availability of appropriations, the Secretary of Transportation shall es-

tablish in the Department of Transportation a Disability Mobility Advisory Council (hereinafter referred to as the "Council") composed of not less than [15] and not more than [50] members appointed by the Secretary.

(b) DUTIES.—The Council shall undertake information gathering activities, develop technical advice, and present recommendations to the Secretary regarding advancing mobility access for the disabled community with respect to the deployment of automated driving systems to ensure an awareness of the needs of the disability community as these vehicles are being designed for distribution in commerce. The recommendations shall also be reported to the Committee on Energy and Commerce of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate.

(c) MEMBERSHIP AND QUALIFICATIONS.—Members of the Council shall be representative of—

(1) individuals with disabilities and the individuals' representatives;

(2) disability researchers;

(3) directors of independent living centers;

(4) the business community that has experience with testing and developing automated driving systems, including representatives from the suppliers of this technology, the small business community and a

representative who has experience with hiring individuals with disabilities;

(5) automobile dealers selling automated driving systems; and

(6) academia with expertise in mobility access for the disabled community.

(d) VACANCIES.—Any vacancy occurring in the membership of the Council shall be filled in the same manner as the original appointment for the position being vacated. The vacancy shall not affect the power of the remaining members to execute the duties of the Council.

(e) FEDERAL ADVISORY COMMITTEE ACT.—The establishment and operation of the Council shall conform to the requirements of the Federal Advisory Committee Act (5 U.S.C. App.).

(f) TECHNICAL ASSISTANCE.—On request of the Council, the Secretary shall provide such technical assistance to the Council as [the Council] / [the Secretary] determines to be necessary to carry out its duties.

(g) DETAIL OF FEDERAL EMPLOYEES.—On the request of the Council, the Secretary may detail, with or without reimbursement, any of the personnel of the Department of Transportation to the Council to assist the Council in carrying out its duties. Any detail shall not in-

terrupt or otherwise affect the civil service status or privileges of the Federal employee.

(h) PAYMENT AND EXPENSES.—Members of advisory councils shall serve without pay, except travel and per diem will be paid each member for meetings called by the Secretary.

(i) DEFINITION.—For purposes of this Act, the term "automated driving system" has the meaning given that term in the September 2016 Surface Vehicle Recommended Practice Report (J3016) by SAE International[, or any successor report thereto].

[DISCUSSION DRAFT]

115TH CONGRESS
1ST SESSION

H. R. _____

To establish in the Department of Transportation an Advisory Council for Improving Mobility Access for Underserved Populations and Senior Citizens.

IN THE HOUSE OF REPRESENTATIVES

_____ introduced the following bill; which was referred to the Committee on _____

A BILL

To establish in the Department of Transportation an Advisory Council for Improving Mobility Access for Underserved Populations and Senior Citizens.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. ADVISORY COUNCIL ON IMPROVING MOBILITY ACCESS FOR UNDERSERVED POPULATIONS AND SENIOR CITIZENS.

(a) ESTABLISHMENT.—Subject to the availability of appropriations, the Secretary of Transportation shall establish in the Department of Transportation an Advisory

Council for Improving Mobility Access for Underserved Populations and Senior Citizens (hereinafter referred to as the "Council") composed of not less than [15] and not more than [50] members appointed by the Secretary.

(b) DUTIES.—The Council shall undertake information gathering activities, develop technical advice, and present recommendations to the Secretary regarding mobility access for senior citizens and populations underserved by traditional public transportation services and educational outreach efforts with respect to the testing and distribution of highly automated vehicles in commerce. The recommendations shall also be reported to the Committee on Energy and Commerce of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate.

(c) MEMBERSHIP AND QUALIFICATIONS.—Members of the Council shall be representative of—

(1) senior citizens;

(2) individuals dependent on public transportation living or working in underserved areas;

(3) the directors of independent living centers;

(4) the business community that has experience with testing and developing automated driving systems, including representatives from the suppliers of this technology, the small business community and a

representative who has experience with hiring senior citizens and individuals dependent on public transportation living or working in underserved areas;

(5) automobile dealers selling automated driving systems; and

(6) academia with expertise in mobility access for senior citizens and underserved populations.

(d) VACANCIES.—Any vacancy occurring in the membership of the Council shall be filled in the same manner as the original appointment for the position being vacated. The vacancy shall not affect the power of the remaining members to execute the duties of the Council.

(e) FEDERAL ADVISORY COMMITTEE ACT.—The establishment and operation of the Council shall conform to the requirements of the Federal Advisory Committee Act (5 U.S.C. App.).

(f) TECHNICAL ASSISTANCE.—On request of the Council, the Secretary shall provide such technical assistance to the Council as [the Council] / [the Secretary] determines to be necessary to carry out its duties.

(g) DETAIL OF FEDERAL EMPLOYEES.—On the request of the Council, the Secretary may detail, with or without reimbursement, any of the personnel of the Department of Transportation to the Council to assist the Council in carrying out its duties. Any detail shall not in-

terrupt or otherwise affect the civil service status or privileges of the Federal employee.

(h) PAYMENT AND EXPENSES.—Members of advisory councils shall serve without pay, except travel and per diem will be paid each member for meetings called by the Secretary.

(i) DEFINITIONS.—For purposes of this Act—

(1) the term "highly automated vehicle"—

(A) means a motor vehicle equipped with an automated driving system; and

(B) does not include a commercial motor vehicle (as defined in section 31101 of title 49, United States Code); and

(2) the term "automated driving system" has the meaning given that term in the September 2016 Surface Vehicle Recommended Practice Report (J3016) by SAE International[, or any successor report thereto].

[DISCUSSION DRAFT]

115TH CONGRESS
1ST SESSION

H. R. _____

To establish in the Department of Transportation an Automated Driving System Cybersecurity Advisory Council make recommendations regarding cybersecurity framework for the testing, deployment, and updating of automated driving systems.

IN THE HOUSE OF REPRESENTATIVES

_____ introduced the following bill; which was referred to the Committee on _____

A BILL

To establish in the Department of Transportation an Automated Driving System Cybersecurity Advisory Council make recommendations regarding cybersecurity framework for the testing, deployment, and updating of automated driving systems.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. AUTOMATED DRIVING SYSTEM CYBERSECURITY ADVISORY COUNCIL.

(a) ESTABLISHMENT.—Subject to the availability of appropriations, the Secretary of Transportation shall es-

tablish in the Department of Transportation an Automated Driving System Cybersecurity Advisory Council (hereinafter referred to as the "Council") composed of not less than [20] and not more than [50] members appointed by the Secretary.

(b) DUTIES.—The Council shall undertake information gathering activities, develop technical advice, and present recommendations to the Secretary regarding cybersecurity for the testing, deployment, and updating of automated driving systems with respect to supply chain risk management, interactions with Information Sharing and Analysis Centers and Information Sharing and Analysis Organizations, and a framework for identifying and implementing recalls of motor vehicles or motor vehicle parts. The recommendations shall also be reported to the Committee on Energy and Commerce of the House of Representative and the Committee on Commerce, Science, and Transportation of the Senate.

(c) MEMBERSHIP AND QUALIFICATIONS.—Members of the Council shall be representative of—

(1) original equipment manufacturers of automated driving systems with a presence in the United States; the community of suppliers of original equipment manufacturers of automated driving systems;

(2) automobile dealers selling automated driving systems;

(3) organizations facilitating the sharing and dissemination of cybersecurity threat information and intelligence within the automotive industry and with external stakeholders (including public sector entities such as State chief information security officers);

(4) engineers developing the software and hardware deployed in automated driving systems;

(5) independent cybersecurity researchers;

(6) academia with expertise in cybersecurity for automated driving systems;

(7) communications cybersecurity experts with experience regarding automated driving systems;

(8) insurance industry representatives;

(9) automotive repair industry representatives; and

(10) at least one representative from the National Highway Traffic Safety Administration and at least one representative from the National Institute of Standards and Technology.

(d) VACANCIES.—Any vacancy occurring in the membership of the Council shall be filled in the same manner as the original appointment for the position being vacated.

The vacancy shall not affect the power of the remaining members to execute the duties of the Council.

(e) FEDERAL ADVISORY COMMITTEE ACT.—The establishment and operation of the Council shall conform to the requirements of the Federal Advisory Committee Act (5 U.S.C. App.).

(f) TECHNICAL ASSISTANCE.—On request of the Council, the Secretary shall provide such technical assistance to the Council as [the Council] / [the Secretary] determines to be necessary to carry out its duties.

(g) DETAIL OF FEDERAL EMPLOYEES.—On the request of the Council, the Secretary may detail, with or without reimbursement, any of the personnel of the Department of Transportation to the Council to assist the Council in carrying out its duties. Any detail shall not interrupt or otherwise affect the civil service status or privileges of the Federal employee.

(h) PAYMENT AND EXPENSES.—Members of advisory councils shall serve without pay, except travel and per diem will be paid each member for meetings called by the Secretary.

(i) DEFINITION.—For purposes of this Act, the term "automated driving system" has the meaning given that term in the September 2016 Surface Vehicle Rec-

ommended Practice Report (J3016) by SAE International[, or any successor report thereto].

[DISCUSSION DRAFT]

115TH CONGRESS
1ST SESSION

H. R. _____

To establish an advisory committee on highly automated vehicles, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

M__. _____ introduced the following bill; which was referred to the Committee on _____

A BILL

To establish an advisory committee on highly automated vehicles, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Sharing Automated Vehicle Records with Everyone for Safety Act" or the "SHARES Act".

SEC. 2. ADVISORY COMMITTEE ON HIGHLY AUTOMATED VEHICLES.

(a) ESTABLISHMENT.—Not later than 6 months after the date of the enactment of this Act, the Secretary of Transportation shall establish in the National Highway Traffic Safety Administration an advisory committee to develop a framework that allows manufacturers of highly automated vehicles to share relevant, situational information related to any testing event on public streets resulting in damage to the test vehicle or any occupant thereof and validation of such vehicles in a manner that does not risk public disclosure of such information or disclosure of confidential business information.

(b) MEMBERSHIP.—The advisory committee shall consist of not less than [15] and not more than [50] members appointed by the Secretary. The members shall include the following:

(1) Representatives from standard-setting organizations, including SAE International.

(2) Manufacturers of highly automated vehicles and automated driving system equipment.

(3) Public sector entities, such as State authorities with jurisdiction over highly automated vehicles.

(4) Insurance industry representatives.

(5) Automobile dealers selling automated driving systems.

(6) Automotive repair industry representatives.

(7) Academia with expertise in the testing of highly automated vehicles.

(8) Other members determined to be appropriate by the Secretary.

(c) DUTIES.—The advisory committee shall gather information, develop technical advice, and present recommendations on the framework described in subsection (a) to the Secretary of Transportation and the Congress not later than 2 years after the date of the enactment of this Act.

(d) DEFINITIONS.—In this subsection:

(1) AUTOMATED DRIVING SYSTEM.—The term "automated driving system" has the meaning given that term in the September 2016 Surface Vehicle Recommended Practice Report (J3016) by SAE International[, or any successor report thereto].

(2) HIGHLY AUTOMATED VEHICLE.—The term "highly automated vehicle"—

(A) means a motor vehicle equipped with an automated driving system; and

(B) does not include a commercial motor vehicle (as defined in section 31101 of title 49, United States Code).

(3) MOTOR VEHICLE.—The term "motor vehicle" has the meaning given that term in section 30102(a) of title 49, United States Code.

[DISCUSSION DRAFT]

115TH CONGRESS
1ST SESSION

H. R. _____

To prohibit the National Highway Traffic Safety Administration from requiring pre-market approval of vehicle types or designs for highly automated vehicles, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

_____ introduced the following bill; which was referred to the Committee on _____

A BILL

To prohibit the National Highway Traffic Safety Administration from requiring pre-market approval of vehicle types or designs for highly automated vehicles, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Highly Automated Vehicle Pre-Market Approval Reduces Opportunities for More People to Travel Safely Act" or the "HAV PROMPT Act".

SEC. 2. PRE-MARKET APPROVAL PROCESS PROHIBITED FOR HIGHLY AUTOMATED VEHICLES.

Section 30111 of title 49, United States Code, is amended by adding at the end the following new subsection:

"(g) PROHIBITION ON PRE-MARKET APPROVAL PROCESS FOR HIGHLY AUTOMATED VEHICLES.—

"(1) IN GENERAL.—Except as provided for in the exceptions described under section 30112(a), the Secretary of Transportation may not implement a pre-market approval process in which a manufacturer is prohibited from manufacturing, introducing into commerce, offering for sale, or selling a highly automated vehicle unless, prior to any such action, the Secretary has assessed the safety or any of the features of the highly automated vehicle and approved such vehicle or features.

"(2) DEFINITIONS.—In this subsection—

"(A) the term 'highly automated vehicle'—

"(i) means a motor vehicle equipped with an automated driving system; and

"(ii) does not include a commercial motor vehicle (as defined in section 31101); and

"(B) the term 'automated driving system' has the meaning given that term in the Sep-

tember 2016 Surface Vehicle Recommended Practice Report (J3016) by SAE International[, or any successor report thereto]."."

[DISCUSSION DRAFT]

115TH CONGRESS
1ST SESSION

H. R. _____

To amend subchapter II of chapter 301 of part A of subtitle VI of title 49, United States Code, to require the treatment of information related to highly automated vehicles as confidential business information, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

M__. _____ introduced the following bill; which was referred to the Committee on _____

A BILL

To amend subchapter II of chapter 301 of part A of subtitle VI of title 49, United States Code, to require the treatment of information related to highly automated vehicles as confidential business information, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Guarding Automakers Against Unfair Advantages Reported in Public Documents Act" or the "GUARD Act".

SEC. 2. FOIA EXEMPTION.

(a) AMENDMENT.—Subchapter II of chapter 301 of part A of subtitle VI of title 49, United States Code, is amended by adding at the end the following new section:

"§ 30129. Automated driving system information

"(a) HIGHLY AUTOMATED VEHICLE EXEMPTIONS.—The following information received by the Secretary from a manufacturer or equipment manufacturer of highly automated vehicles, with respect to the design or testing of such vehicles, shall be treated as confidential business information:

"(1) Any report or data relating to the testing and validation of an event, incident, and crash data of automated driving systems.

"(2) Any report or data relating to the design and validation processes of electrical, electronic, communication, or mechanical functions of automated driving systems.

"(3) Any report or data relating to the testing and validation of cybersecurity in automated driving systems.

"(4) Any report or data relating to the assessment, testing, and validation of human machine interfaces.

"(5) Any report or data relating to the testing and validation of the fallback of an automated driving system.

"(6) Any report or data relating to the testing and validation of the object and event detection response capabilities of an automated vehicle.

"(b) DEFINITIONS.—In this section:

"(1) AUTOMATED DRIVING SYSTEM; FALLBACK; OBJECT AND EVENT DETECTION AND RESPONSE.—The terms 'automated driving system', 'fallback', and 'object and event detection and response' have the meaning given those terms in the September 2016 Surface Vehicle Recommended Practice Report (J3016) by SAE International[, or any successor report thereto].

"(2) CONFIDENTIAL BUSINESS INFORMATION.—The term 'confidential business information' means trade secrets or commercial or financial information that is privileged or confidential, as described in section 552(b)(4) of title 5.

"(3) HIGHLY AUTOMATED VEHICLE.—The term 'highly automated vehicle'—

"(A) means a motor vehicle equipped with an automated driving system; and

"(B) does not include a commercial motor vehicle (as defined in section 31101).".

(b) TECHNICAL AND CONFORMING AMENDMENT.—The table of sections for subchapter II of chapter 301 of part A of subtitle VI of title 49, United States Code, is amended by adding at the end the following new item:

"30129. Automated driving system information.".

[DISCUSSION DRAFT]

115TH CONGRESS
1ST SESSION

H. R. _____

To direct the Federal Trade Commission and the Administrator of the National Highway Traffic Safety Administration to enter into a memorandum of understanding on the regulation and oversight of highly automated vehicles with respect to privacy and cybersecurity.

IN THE HOUSE OF REPRESENTATIVES

M__. _____ introduced the following bill; which was referred to the Committee on _____

A BILL

To direct the Federal Trade Commission and the Administrator of the National Highway Traffic Safety Administration to enter into a memorandum of understanding on the regulation and oversight of highly automated vehicles with respect to privacy and cybersecurity.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Managing Government Efforts to Minimize Autonomous Vehicle Obstruction Act" or the "MEMO Act".

SEC. 2. MEMORANDUM OF UNDERSTANDING BETWEEN FTC AND NHTSA.

(a) IN GENERAL.—Not later than 180 days after the date of the enactment of this Act, the Federal Trade Commission and the Administrator of the National Highway Traffic Safety Administration shall enter into a memorandum of understanding on the regulation and oversight of highly automated vehicles with respect to privacy and cybersecurity.

(b) REQUIREMENTS.—The memorandum of understanding entered into under subsection (a) shall include—

(1) intentions to limit overlap and duplication between regulation and oversight by the Commission and by the Administrator;

(2) a commitment from the Commission to focus on privacy and cybersecurity issues that are not connected with the active operation of a highly automated motor vehicle or the features of such vehicle; and

(3) a commitment from the Administrator to focus on privacy and cybersecurity issues that are connected with the active operation of a highly automated motor vehicle or the features of such vehicle.

(c) DEFINITIONS.—In this section:

(1) AUTOMATED DRIVING SYSTEM.—The term "automated driving system" has the meaning given

that term in the September 2016 Surface Vehicle Recommended Practice Report (J3016) by SAE International[, or any successor report thereto].

(2) HIGHLY AUTOMATED VEHICLE.—The term "highly automated vehicle"—

(A) means a motor vehicle equipped with an automated driving system; and

(B) does not include a commercial motor vehicle (as defined in section 31101 of title 49, United States Code).

(3) MOTOR VEHICLE.—The term "motor vehicle" has the meaning given that term in section 30102(a) of title 49, United States Code.

[DISCUSSION DRAFT]

115TH CONGRESS
1ST SESSION

H. R. _____

To amend section 32302 of title 49, United States Code, to require information on highly automated driving systems to be included on stickers placed on motor vehicles by their manufacturers, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

_____ introduced the following bill; which was referred to the Committee on _____

A BILL

To amend section 32302 of title 49, United States Code, to require information on highly automated driving systems to be included on stickers placed on motor vehicles by their manufacturers, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Designating Each Car's Automation Level Act" or the "DECAL Act".

SEC. 2. INFORMATION ON HIGHLY AUTOMATED DRIVING SYSTEMS REQUIRED ON STICKERS MADE AVAILABLE TO PROSPECTIVE BUYERS.

(a) AMENDMENT.—Section 32302 of title 49, United States Code, is amended by adding at the end the following new subsection:

"(e) INFORMATION ON AUTOMATED DRIVING SYSTEMS REQUIRED.—

"(1) IN GENERAL.—Manufacturers shall include a description of the level of driving automation for any highly automated vehicle on the stickers described in subsection (c).

"(2) DEFINITIONS.—As used in this subsection—

"(A) the term 'highly automated vehicle'—

"(i) means a motor vehicle equipped with an automated driving system; and

"(ii) does not include a commercial motor vehicle (as defined in section 31101); and

"(B) the term 'automated driving system' has the meaning given those terms in the September 2016 Surface Vehicle Recommended Practice Report (J3016) by SAE International[, or any successor report thereto]."

Letter for the Record

June 27, 2017

Marc Scribner
Senior Fellow
Competitive Enterprise Institute

House Energy and Commerce Committee
Subcommittee on Digital Commerce and Consumer Protection
Hearing: Self-Driving Vehicle Legislation

Dear Chairman Latta, Ranking Member Schakowsky, and members of the subcommittee:

Thank you for the opportunity to supplement the record of your hearing with our views on vehicle automation technology legislation. The 14 discussion drafts before the subcommittee raise some important issues and propose some welcome policy changes. In light of the continued safety hazards associated with conventional driving, there is an emerging consensus on the need to provide regulatory clarity and relief to developers of vehicle automation systems in order that they can more rapidly deploy these life-saving technologies.

As a practical matter, a comprehensive update of Federal Motor Vehicle Safety Standards (FMVSS) to reflect emerging automation technology will require a significant effort on the part of the National Highway Traffic Safety Administration (NHTSA). To its credit, NHTSA and the Department of Transportation's Intelligent Transportation Systems Joint Program Office completed an initial audit of its FMVSS in March 2016, which was conducted by the John A. Volpe National Transportation Systems Center.[1]

Yet, short of a comprehensive update of FMVSS, there is much that can be done to provide short-term clarity and relief. Here there is a strong role for congressional leadership. The 14 discussion drafts recognize this opportunity for congressional action, covering matters such as FMVSS exemption caps, preemption and federalism, and premarket approval authority.

With respect to FMVSS exemption caps, we strongly support the aims of the PAVE, ROAD, and EXEMPT Acts. FMVSS exemptions will be critical to the efforts of developers to quickly

[1] Anita Kim, Dan Bogard, David Perlman, and Ryan Harrington, "Review of Federal Motor Vehicle Safety Standards(FMVSS) for Automated Vehicles," *Preliminary Report*, John A. Volpe National Transportation Systems Center, U.S. Department of Transportation, March 2016, https://ntl.bts.gov/lib/57000/57000/57076/Review_FMVSS_AV_Scan.pdf.

deploy early generation vehicle automation systems, which are likely to be centrally managed fleet vehicles operated in urban areas.

With respect to preemption and federalism, the LEAD'R and INFORM Acts provide a great framework for clarifying the respective roles of federal and state authorities while also ensuring that federal and state authorities remain informed partners in the forthcoming deployment of vehicle automation systems.

With respect to premarket approval authority, the HAV Prompt Act would provide needed assurances that NHTSA will not be permitted to upend the long-established and successful FMVSS self-certification regime with either wholesale premarket approval or some hybrid as the agency had contemplated in its September 2016 Federal Automated Vehicles Policy guidance document.[2]

These proposals are all welcome and will serve as the basis for a productive debate on vehicle automation system policies. However, we do have concerns with the DECAL Act's proposed changes to Monroney label requirements. To be sure, in the future the Monroney label can be reasonably anticipated to reflect the presence and attributes of vehicle automation systems. But the Act is flawed in several respects.

First, the Act proposes to codify in statute the automation levels contained in SAE J3016. These standards are subject to great debate and will likely be frequently updated in the coming years. At least until automation level standardization at SAE stabilizes, it is unwise to codify them in either the statutory or administrative codes.

Second, while the Act presumes SAE J3016 will be updated, providing for future standards to supersede SAE J3016, this constitutes a transfer of lawmaking power to a private third-party entity. This is because SAE International's subsequent automation level updates will materially impact manufacturer obligations under the Act and these obligations are entirely subject to the whims of a private entity.

Third, any future Monroney label updates to reflect the presence of vehicle automation systems should be conducted by the Secretary of Transportation under 49 C.F.R. Part 575. Congress may wish to direct the Secretary to make these future changes, but any SAE standard referenced in Part 575 should be fixed in time, much in the same way NHTSA currently references SAE standards in FMVSS, in order to provide manufacturers with reasonable regulatory certainty.

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[2] National Highway Traffic Safety Administration, "Federal Automated Vehicles Policy," U.S. Department of Transportation, September 20, 2016, https://www.nhtsa.gov/av.

Again, thank you for this opportunity to supplement the record on this important topic. My Competitive Enterprise Institute colleagues and I are happy to discuss this topic and these measures further with committee members and their staff.

Sincerely,

Marc Scribner

Consumer
Technology
Association

1919 S. Eads St.
Arlington, VA 22202
703-907-7600
CTA.tech

June 26, 2017

Chairman Bob Latta
Committee on Energy and Commerce;
Subcommittee on Digital Commerce and Consumer Protection
2125 Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Latta;

The Consumer Technology Association (CTA)™ would like to thank the Digital Commerce and Consumer Protection Subcommittee for its leadership in proposing policies to support the advancement of self-driving vehicles and for holding this important legislative hearing.

CTA is the trade association representing the entrepreneurs, technologists and innovators molding the future of the consumer technology industry. Our more than 2,200 member companies include many working to transform the safety and efficiency of the driving experience through automated driving technologies and assisted and self-driving cars. These advances are changing our lives for the better: leading to expanded mobility, increased fuel efficiency, reduced traffic congestion and, above all, enhanced safety on our nation's roads and highways.

The subcommittee's discussion draft legislation addresses several key issues that will ensure the safe and rapid testing and deployment of these lifesaving technologies. As you know, one of the biggest challenges facing the development and implementation of these technologies is the growing patchwork of legislation and regulation across the country. To that end, CTA appreciates the draft legislation's clear direction about the proper roles of State and Federal governments in regulating self-driving cars. This is essential in creating consistency for companies testing and deploying this technology, while ensuring interstate use of these innovations is the norm rather than the exception. The adoption of the SAE J3016 definitions in the text also provides for a technology neutral approach and further ensures clarity. Additionally, we support the legislation increasing the number and length of time for exemptions for innovative self-driving safety features, as well as an expansion of eligibility to permit on-road testing of prototype vehicles by vehicle equipment manufacturers and technology companies.

We look forward to continuing to work with the subcommittee on this legislation as it advances. Thank you for your thoughtfulness and leadership on this issue.

Sincerely,

[redacted]

Gary Shapiro
President and CEO

Property Casualty Insurers
Association of America
Advocacy. Leadership. Results.

NATHANIEL WIENECKE
SENIOR VICE PRESIDENT
FEDERAL GOVERNMENT RELATIONS

June 26, 2017

The Honorable Bob Latta
Chairman
Subcommittee on Digital Commerce
and Consumer Protection
U.S. House of Representatives
Washington, D.C. 20515

The Honorable Jan Schakowsky
Ranking Member
Subcommittee on Digital Commerce
and Consumer Protection
U.S. House of Representatives
Washington, D.C. 20515

Dear Chairman Latta and Ranking Member Schakowsky,

The Property Casualty Insurers Association of America (PCI) is pleased to submit a letter for the record for the Subcommittee on Digital Commerce and Consumer Protection's hearing on "Self-Driving Vehicle Legislation."

The promise of "self-driving" vehicles to improve road safety and mobility continues to generate debate about the appropriate regulatory frame work for the testing and deployment of such vehicles. As the automation of driving functions increase, some motor vehicle laws and regulations will need to be changed to accommodate the testing and deployment of self-driving cars. PCI is pleased that the committee's draft legislation touches on the most significant policy questions such as safety, defining the federal and state role in regulation as well as data sharing and security issues in a manner that encourages innovation and provides the opportunity for stake holders to work together to address those issues.

PCI is composed of 1,000 member companies, representing the broadest cross section of insurers of any national trade association. PCI members write $202 billion in annual premium, 35 percent of the nation's property casualty insurance. That figure includes over $97 billion, or 42 percent of the auto insurance premium written in the United States.

General Comments:

The increasing automation of the driving function is likely to result in significant change for the auto insurance industry. To adapt to these changes and support innovation in transportation, insurers will need to have access to data and information regarding vehicles with automated driving systems. The ability to identify which vehicles have automated driving technology, and the type of technology of each vehicle is critical for insurers to develop historical loss data and innovate and price new insurance products to support the technology as it evolves.

As policymakers consider what data should be collected and retained by automated vehicles, PCI supports rules that provide for reasonable access to insurers for claims handling purposes. In many auto accidents, apportionment of liability is likely to hinge upon whether a human driver or the vehicle itself was in control and what actions either the driver or the vehicle did or did not take immediately prior to the loss event.

Access to data for insurers will speed claims handling and potentially avoid disputes that could delay compensation to accident victims. PCI also supports clear identification of federal and state regulatory responsibilities regarding self-driving vehicles, with the federal government setting and enforcing safety standards for motor vehicles and recalls, and the states continuing to have primacy on motor vehicle insurance and liability issues as they do today.

Testing requirements, guidelines and standards for use on public roads should set clear expectations for the public and provide clear direction for technology developers and manufacturers for compliance. Modifications to existing auto safety laws and motor vehicle safety standards should be rare and limited to only the highest levels (i.e. fully autonomous) of automated driving and should clearly define the levels of automation to which the modification applies. Clear and effectively enforced auto safety laws and vehicle standards can save lives on our roads today and, when applied to automated driving systems, develop public confidence that will ultimately determine whether the technology realizes its full potential.

Specific Comments on Draft Legislation

Exemptions and Testing
The PAVE and ROAD Acts expand the number of vehicles that the Secretary of Transportation may grant exemptions to Federal Motor Vehicle Safety Standards (FMVSS) for each manufacturer and the duration for which a manufacturer can maintain that exemption. While PCI recognizes that the current two year, 2,500 vehicles per manufacturer limits may need to change, we also believe that exceptions to FMVSS standards should be rare and limited in scope.

The EXEMPT Act sets the standards for granting exceptions; promoting acceptance of the new safety technology or providing better access to transportation for those that are disabled and, in both cases, would provide an overall safety level that is at least equal in overall safety level. Public acceptance of self-driving technology will likely hinge on the perception that it will bring an improvement in safety. As such, PCI recommends using "equal or better in overall safety" as the standard.

The INFORM Act requires that NHTSA notify the states when exemptions are granted within 30 days, which PCI finds reasonable if the exemptions are made public in some way, which would allow insurers to be able to identify such vehicles for claims and underwriting purposes.

Advisory Committees
Improved mobility for seniors, the disabled and those underserved by present public transportation options is one of the most significant potential benefits of self-driving technology and PCI agrees that seeking input from these stakeholders is important going forward.

As indicated earlier, data access and cybersecurity issues are of critical importance to insurers, as such PCI is very pleased that insurance representatives are specifically provided for on the advisory bodies created by the Automated Driving System Cybersecurity Advisory Council and SHARES Acts. PCI is eager to participate on these advisory councils and work with all stake holders to establish a framework for sharing information that protects vehicle user privacy and the intellectual property rights of the manufacturers.

GUARD Act
As companies invest millions of dollars in developing automated driving systems, they are justifiably concerned with protecting their intellectual property and other proprietary information. Insurers make similar investments and share those same concerns for their own investments. We are concerned how this provision will interact with the framework to be established by the SHARES Act, and could limit access to information necessary to resolve accident claims and develop new insurance products. PCI recommends that the issue of what should or should not be considered "confidential business information" be incorporated in to the SHARES Act framework discussions.

Other Proposals
The MEMO Act would require the Federal Trade Commission (FTC) and the National Highway Transportation Safety Administration (NHTSA)to develop and enter in to a memo of understanding that lays out each agencies responsibility on cybersecurity, avoiding duplication of efforts (and regulatory requirements). PCI supports clear identification of federal and state regulatory responsibilities regarding self-driving vehicles and we agree that clarifying responsibilities between federal agencies is good public policy. We also support adding information about automated driving features to the Monroney label, so that information is available to consumers, insurers and repair facilities, among others.

Conclusion

Automated driving technology holds great promise for the future, and implementing clear policies on the federal and state roles in regulating automated vehicle technology and ensuring that insurers have access to vehicle data on reasonable terms to efficiently handle claims, develop products and underwriting methods are an essential first step toward that future. PCI and its members look forward to working with legislators and regulators at the federal and state level to establish a regulatory framework for automated driving.

Sincerely,

[redacted]

Nathaniel F. Wienecke

Motor & Equipment Manufacturers Association
1030 15th Street, NW Suite 500 East Washington, DC 20005
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www.mema.org

June 26, 2017

Statement for the Hearing Record
"Self-Driving Vehicle Legislation"

The Honorable Bob Latta
Chairman, Subcommittee on Digital Commerce and Consumer Protection,
House Energy & Commerce Committee
Room 2125, Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Latta:

MEMA applauds your leadership on legislation for highly automated vehicles. We are pleased to support the draft legislation recently circulated, as it contains critical priorities for vehicle suppliers. We offer the following information and comments for your consideration:

About MEMA

The Motor & Equipment Manufacturers Association (MEMA) is the leading international trade association in the fast-changing mobility industry. Representing motor vehicle suppliers that manufacture and remanufacture components, technologies, and systems for use in passenger cars and heavy trucks, MEMA serves as a critical bridge between high-tech capabilities in new vehicles – such as automated and connected vehicles– and the "nuts and bolts" of vehicle manufacturing. Motor vehicle suppliers contribute more than 77 percent of the value in today's vehicles.

MEMA works to ensure that the marketplace and public policies support the development of advanced, transformative technologies that enable safer, smarter, and more efficient vehicles. MEMA's members are represented through four divisions: Automotive Aftermarket Suppliers Association (AASA), Heavy Duty Manufacturers Association (HDMA), Motor & Equipment Remanufacturers Association (MERA), and Original Equipment Suppliers Association (OESA).

Earlier this year MEMA released an important economic impact study that clearly defines the critical role motor vehicle parts suppliers play in the U.S. economy. Motor vehicle component manufacturers are the largest employer of manufacturing jobs in the U.S., contributing nearly 3 percent of the U.S. gross domestic product. Suppliers directly employ more than 871,000 Americans, up 19 percent since 2012, and generate a total

direct and indirect employment impact of 4.26 million jobs, up nearly 18 percent since 2012.[1]

Vehicle Safety Today

Vehicle suppliers are dedicated to vehicle safety with the design and manufacture of their components and systems. To fully appreciate the state of vehicle safety today, over 50 years of crash data show that an estimated 613,501 lives have been saved by vehicle safety technologies and associated Federal Motor Vehicle Safety Standards (FMVSS).[2]

Today, there are many advanced safety features available in the vehicle marketplace ranging from passive to active systems that either warn, aid and/or assist a driver to avoid or mitigate vehicle crashes. These advanced driver assistance systems (ADAS) and vehicle-to-vehicle (V2V) technologies have foundational systems upon which the more complex systems are built. These technologies are mature, affordable and effective.

As over 94 percent of traffic crashes are the result of human error, the potential impact of ADAS, V2V and automated vehicles is wide reaching and unprecedented. Suppliers develop their components and systems with a forward-looking approach to make them increasingly more automated. Ultimately, the collective goal is to improve the safety, mobility and productivity of all road users.

ADAS and the Impact on Safety

In 2015, MEMA and the Boston Consulting Group (BCG) released a report exploring the safety benefits of ADAS technologies, many of which are crash avoidance and mitigation technologies. Our study showed that ADAS can provide immediate safety benefits and form the pathway to a partially and fully automated vehicle fleet that could virtually eliminate traffic fatalities. The study found that a suite of ADAS technologies has the potential to prevent 30 percent of all crashes – a total of 10,000 lives saved annually.[3]

Highly Automated Vehicles

Today's ADAS technologies are the safety foundation upon which the highly automated vehicles of tomorrow are built. Recognizing that there are varying levels of automation, the vehicle industry worked through the SAE International to develop an standard to clearly

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[1] "Driving the Future: The Employment and Economic Impact of the Vehicle Supplier Industry in the U.S." MEMA and The Boston Consulting Group, January 2016. https://www.mema.org/sites/default/files/MEMA_ImpactBook.pdf

[2] NHTSA, "Lives Saved by Vehicle Safety Technologies and Associated Federal Motor Vehicle Safety Standards, 1960 to 2012: Passenger Cars and LTVs" DOT HS 812 069, January 2015.

[3] MEMA and BCG, "A Roadmap to Safer Driving Through Advanced Driver Assistance Systems," page 2, September 2015.

define these levels. Using terms like "self-driving" or "driverless" can be misinterpreted.[4] Therefore, MEMA urges the Committee to use precise language and reference existing standards, such as SAE J3016, as it moves forward with automated vehicle legislation.

As you know, last year the National Highway Traffic Safety Administration (NHTSA) announced its Federal Automated Vehicle Policy (FAVP), which is designed to establish vehicle performance guidance for automated vehicles, identify distinctions between federal and state roles, and to address current and future tools and authorities. NHTSA's Policy adopted the SAE levels of automated vehicles in order to establish a common nomenclature. MEMA applauded NHTSA for establishing an iterative process and developing this guidance, as an appropriate approach for the rapidly evolving advances in vehicle technologies. MEMA did urge the agency to make some important clarifications as soon as possible. Although, some of the issues can and should be addressed with federal legislation, which is needed to establish a national framework for all stakeholders to navigate the complexities of federal and state roles, automated vehicle technologies and vehicle supply chains.

The trend in automated systems is accelerating. Many Level 1 and 2 systems are already available in the marketplace on new passenger cars and commercial vehicles as either standard or optional equipment. Level 3 automated systems are expected to be in production light vehicles as early as 2018. Levels 4 and 5 are forecasted to be more widely available by 2025.

MEMA wants to ensure that legislative and regulatory outcomes avoid unintended impediments to product design, enhancements, and innovative advancements in automated technologies. The benefits of these technologies are evolutionary; thus, the endeavor to tackle public policies while also balancing innovation is massive and requires the collaboration and cooperation among all public and private stakeholders.

MEMA and its members agree that safety is the top priority in shaping automated vehicle legislation. Over 35,000 people lose their lives each year in vehicle crashes; suppliers are committed to the goal of zero fatalities, which requires continuous improvements to technological solutions. Automated vehicles will eventually reduce and eliminate vehicle collisions, fatalities and injuries. MEMA supports federal leadership on and balanced oversight of vehicles and system standards as this technology evolves.

Supplier testing on public roads: MEMA believes that legislation must provide stakeholders the latitude to continue to develop and evolve automated vehicle technologies

[4] SAE J3016™ "Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles" January 2014.

and also establish some certainties and clarify roles. In this regard, our leading priority is to include legislative language that affirms that motor vehicle equipment manufacturers and suppliers can test and evaluate automated vehicle systems on public roads. We appreciate your inclusion of such language in the draft legislation.

Under Section 24404 of the FAST Act,[5] vehicle manufacturers are able to test and operate vehicles that do not meet Federal Motor Vehicle Safety Standards (FMVSS), provided they are not offered for sale. However, this provision does not include vehicle equipment manufacturers (i.e. suppliers). MEMA raised this in our comments to NHTSA on the Federal Automated Vehicle Policy as well as in testimony at a Nov. 15, 2016 hearing before the House Energy and Commerce Committee's Subcommittee on Commerce, Manufacturing and Trade.

There are inherent and critical differences between automated systems that are being exclusively evaluated and tested by trained professionals versus automated systems that are intended for production and deployed to the general public. Vehicles used for the purposes of testing and evaluation during developmental phases of a given vehicle technology system are often modified and instrumented, and driven by professional drivers who are typically trained by the company conducting the test evaluation. During the testing process, a system will be adjusted, refined, and re-adjusted – sometimes within hours and days, sometimes over a period of weeks and months. The ability for suppliers to utilize public roadways to collect data, refine systems, and fully test and evaluate new technology before systems are finalized is a critical industry need.

In addition, motor vehicle suppliers should also be granted exemptions from FMVSS requirements for test vehicles. This is necessary to evaluate new systems as technology evolves and vehicle systems include more automated features, including but not limited to steering, braking, rear visibility, lighting and other functions governed by FMVSS standards.

Separate Federal and State Roles: Another leading priority for suppliers is to enact through federal legislation a clear distinction between federal and state authority over automated vehicles. This distinction is critical to prevent a conflicting patchwork of laws and rules governing the performance and operational requirements of automated vehicle technology, which should be regulated solely at the federal level. MEMA agrees with the NHTSA FAVP guidelines indicating that the state role should address licensing, registration, insurance, and traffic regulations. Since some aspects of the FAVP's model state policy may unintentionally conflict with each other, but MEMA believes this could be resolved by

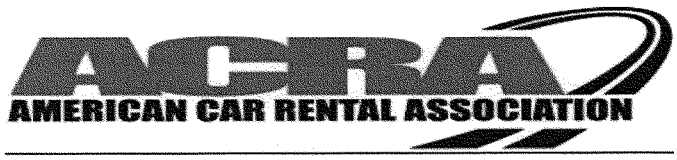
[5] Fixing America's Surface Transportation Act of 2015, Public Law No: 114-94, Dec. 4, 2015

federal legislation. Again, we appreciate and support the distinctions included in the draft legislation.

Conclusion

MEMA is committed to working with the Committee in support of automated vehicle technology, and our key priorities remain securing authority for motor vehicle suppliers to test systems and vehicles on public roads in the U.S. and establishing a clear distinction between federal and state roles in regulating highly automated vehicles.

We appreciate the collaborative approach the Committee has undertaken and we look forward to working with you going forward. Please contact Ann Wilson at awilson@mema.org for additional information. Thank you.



Statement of American Car Rental Association

to the

House Energy and Commerce Committee's

Hearing on

"Self-Driving Vehicle Legislation"

June 27, 2017

The American Car Rental Association (ACRA) respectfully submits this statement for the record of the House Energy and Commerce Committee's Subcommittee on Digital Commerce and Consumer Protection hearing on "Self-Driving Vehicle Legislation" on Tuesday, June 27, 2017.

ACRA is the national representative for over 98% of our nation's car rental industry. ACRA's membership is comprised of over 300 car rental companies, including all of the brands you would recognize such as Alamo, Avis, Budget, Dollar, Enterprise, Hertz, National and Thrifty. ACRA members also include many system licensees and franchisees; mid-size, regional and independent car rental companies; as well as smaller, "mom & pop" operators. ACRA members have over two million registered vehicles in service, with fleets ranging in size from well over 1.3 million cars to ten cars.

ACRA's members strongly support the development, testing, and gradual deployment of "Highly Automated Vehicles" (HAVs) to improve transportation safety, as well as to reduce personal injury and deaths and property damage associated with vehicle accidents. However, the introduction of HAVs presents a complex technical and public policy challenge. As part of this challenge, policymakers must adapt existing safety, consumer protection, privacy, cybersecurity, and liability principles to reflect a changing vehicle population that includes HAVs -- while at the same time maintaining flexibility to address new and evolving legal issues unique to HAVs that may not be apparent today.

The members of ACRA purchase one out of every nine new cars sold in the United States each year – almost 2 million vehicles in 2016. To the extent that HAVs are introduced into the private passenger motor vehicle fleet in the next decade, ACRA members will be at the forefront of HAV deployment and on the front lines of consumer education about HAVs.

ACRA respectfully submits the following comments on the Staff Discussion Drafts for HAV legislation:

1. LEAD'R Act – ACRA generally supports federal pre-emption of the regulation of the development, testing, and deployment of HAVs and their components with respect to safety standards and recall procedures. Traditional areas of state regulation – insurance, liability, licensing and vehicle registration – should be respected in federal HAV legislation, to the extent possible. However, while states currently regulate drivers and operators of most motor vehicles, this traditional state role likely must shift when the vehicle itself becomes the "operator" or "driver" in the context of an HAV.

   ACRA also supports federal pre-emption with respect to vehicle ownership issues and ownership and control of personal information and vehicle-generated data associated with HAVs. Federal legislation must clarify that vehicle owners, not hardware or software manufacturers, own the information and data that is recorded, transmitted or otherwise generated by HAVs and that this information may be accessed by third parties, including hardware and software manufacturers, only: (a) through informed and express consent of the vehicle owner; or, (b) if the information has been "sanitized" of personal information for safety purposes (law enforcement or insurance) or traffic safety research.

2. PAVE Act – ACRA is neutral with respect to this draft bill.

3. ROAD Act – ACRA is neutral with respect to this draft bill.

4. EXEMPT Act – ACRA is neutral with respect to this draft bill.

5. MORE Act – ACRA does not oppose this draft bill, but suggests that it would be prudent and demonstrate foresight if car rental companies -- which are likely to be among the early fleet owners of HAVs -- are added to the list of entities permitted to test HAVs.

6. INFORM Act – ACRA is neutral with respect to this draft bill.

7. Disability Mobility FACA – Given that ACRA members currently collectively purchase over 10 percent of all new vehicles each year and thus will be at the forefront of HAV deployment in the coming decades, it would be prudent for a representative of the car rental industry be added to the list of required members of the FACA created by this draft bill. With such an addition, ACRA would support this draft bill.

8. Seniors/Underserved Mobility Access FACA – Given that ACRA members currently collectively purchase over 10 percent of all new vehicles each year and thus will be at the forefront of HAV deployment in the coming decades, it would be prudent for a representative of the car rental industry be added to the list of required members of the FACA created by this draft bill. With such an addition, ACRA would support this draft bill.

9. Cybersecurity FACA – Given that ACRA members currently collectively purchase over 10 percent of all new vehicles each year and thus will be at the forefront of HAV deployment in the coming decades, it would be prudent for a representative of the car rental industry be added to the list of required members of the FACA created by this draft bill. With such an addition, ACRA would support this draft bill.

10. SHARES Act – This draft bill appears to conclude – erroneously in ACRA's view -- that only HAV manufacturers will be testing HAVs and thus will be the only entities to possess information regarding testing events generated by HAVs. ACRA suggests that the scope of the entities covered by this bill be expanded to include entities other than manufacturers, including car rental companies. Many non-manufacturer vehicles owners, including car rental companies, likely will test HAVs in the coming years and will have ownership and control of, and should have access to, this data as HAVs are tested and deployed.

    Given that ACRA members currently collectively purchase over 10 percent of all new vehicles each year and thus will be at the forefront of HAV deployment in the coming decades, it would be prudent for a representative of the car rental industry be added to the list of required members of the FACA created by this draft bill. With such an addition and the expansion of coverage of the bill to include all HAV owners, ACRA would support this draft bill.

11. HAV PROMPT Act – ACRA is neutral with respect to this draft bill, but notes that it is not yet clear whether NHTSA should be prohibited from both pre-market assurance and pre-market approval processes with respect to HAVs. The existing self-certification procedures applicable to current motor vehicles may not be appropriate with respect to HAVs, given that a malfunction of virtually any system in an HAV likely will lead to accidents, property damage and potentially injuries. As a result, HAVs may require greater NHTSA oversight and testing than current motor vehicles.

12. GUARD Act – Again, this draft bill concludes that only "manufacturers or equipment manufacturers of" HAVs will have access to information regarding the testing or performance of HAVs. ACRA suggests that the entities covered by the confidential business information protections of this draft bill be expanded to any and all entities, including car rental companies, who may voluntarily submit, or be required to submit, CBI to NHTSA.

13. MEMO Act – ACRA strongly supports the negotiation and execution of a Memorandum of Understanding between the FTC and NHTSA with respect to privacy and cybersecurity. ACRA suggests that this MOU be subject to public notice and comment.

14. DECAL Act – ACRA does not oppose this draft bill as written, but submits that such a label on a new vehicle is not sufficient to inform an HAV owner or user of how to operate the HAV and a manufacturer should not be permitted to rely on such a label to inform and educate HAV owners and users as a guard against strict liability or negligence actions under state laws.

* * *

Thank you for the opportunity to present this statement for the record at this hearing. ACRA stands ready to work with the members of the Committee and all State and Federal legislators and regulators, as well as the many stakeholders interested in the development and introduction of HAVs, in the months and years ahead.

Please contact Greg Scott with questions regarding ACRA's HAV development and deployment positions at 202-297-5123 or gscott@merevir.com.

STATEMENT FOR THE RECORD
HOUSE ENERGY & COMMERCE SUBCOMMITTEE ON DIGITAL COMMERCE AND CONSUMER PROTECTION
SELF-DRIVING VEHICLE LEGISLATION

JUNE 27, 2017

SECURING AMERICA'S FUTURE ENERGY (SAFE)
NATIONAL ASSOCIATION OF THE DEAF
NATIONAL CUED SPEECH ASSOCIATION
SEGS4VETS
PARALYZED VETERANS OF AMERICA
60 PLUS ASSOCIATION
NATIONAL FEDERATION OF THE BLIND

Dear Chairman Latta, Ranking Member Schakowsky and distinguished members of the subcommittee,

On behalf of the above organizations we write in strong support of your efforts to remove regulatory barriers and provide a solid foundation for the future of autonomous vehicle (AV) innovation and deployment.

AVs have the potential to influence society in a way unseen since the invention of the automobile. In addition to dramatically reducing traffic accidents and roadway fatalities, AVs hold the promise of improved mobility—critical for economic growth and quality of life. Of equal importance, AVs can dramatically improve the lives of communities underserved by our transportation systems and most vulnerable to its inefficiencies, namely America's disabled, seniors, and wounded veterans. Often underappreciated in this regard is that the transportation solution inherent to AVs is as much about personal independence—the ability to travel without aid or reliance on another individual—as the ability to create more efficient systems of transport. For SAFE, this is also about our view that AVs represent a critical technology capable of reducing our nation's oil dependence, bolstering national security and strengthening our economy.

A report produced by SAFE, with the Ruderman Family Foundation, found that 15 million Americans—including 6 million with disabilities—have difficulty accessing the transportation they need in their daily lives. This impacts every facet of life. For instance, approximately 4.3 million individuals with a disability face significant barriers to reaching needed medical appointments. The consequent missed appointments result in net costs of at least $19 billion per year, in addition to the quality-of-life detriments from sporadic access to necessary healthcare. Moreover, inadequate accessibility compounds the already high cost of non-emergency medical transport, which totaled more than $2.7 billion under Medicare and Medicaid in 2013 alone.

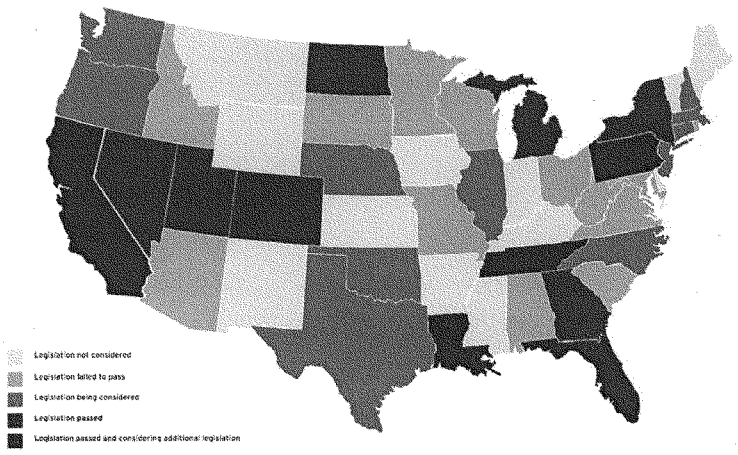
AVs show promise in serving as the basis of a vital, cost-effective solution that benefits members of these communities and their local economies. The report's analysis found that widespread AV deployment would open up approximately 2 million employment opportunities for the disability community. AVs are expected to spur a rethinking of the very shape and construct of the vehicle;

innovative vehicle designs specifically geared toward people with disabilities would allow progress towards the important goal of deploying a vehicle with "universal design."

However, these benefits can only be realized if Congress works toward three critical goals, represented in the draft legislation produced by this Committee: (1) federal pre-emption of key AV regulations; (2) creating a more flexible environment for the testing and development of innovative vehicle designs; and (3) ensuring that the disabled and senior populations are provided a "seat at the table" with both industry and regulators as this transformation of America's transportation system takes place.

Preemption

Federal preemption is key to ensuring market certainty in a rapidly developing industry. A messy "patchwork" of conflicting state regulations is emerging. Thirty-seven states have considered legislation to regulate autonomous vehicles, and 13 states have passed such legislation. This trend risks creating significant uncertainty and risk for innovators and investors, hindering the timely and widespread deployment of AVs.



Source: SAFE analysis and data from The Center for Internet and Society at Stanford Law School.

Preemption is therefore critical if we are to expedite the testing and deployment of AV technology and achieve the social benefits it portends. Beyond explicitly precluding states from interfering in matters of vehicle design and certification, Congress must take care when considering the issue of AV licensing. While the state has traditionally overseen motor vehicle licensing, the potential for states to mandate the presence of a licensed human driver in automated vehicles threatens to preclude the disabled, seniors and injured veterans—important potential beneficiaries of AV technology—from benefiting from this life-improving technology. This would run directly counter to the communities' hopes for AVs, that

of enhancing transportation independence. This is particularly true with respect to the higher levels of automation, specifically Levels 4 and 5 as defined by SAE International, where a "driver" is unnecessary.

Exemptions for Novel Designs

As AVs are an entirely new mode of transportation, no one can foresee the full uses and benefits they will bring as the technology matures. To ensure innovators are free to shape this technology in a way that fully delivers on its potential—and aids those who cannot fully utilize current modes of transportation—Congress must create the necessary flexibility for novel AV designs. Current law allows manufacturers exemptions from the design requirements of the Federal Motor Vehicle Safety Standards (FMVSS) when doing so will further societal aims, such as developing safer or more efficient vehicle technology. It is important at this stage to ensure that AV innovators can work to capture the full scope of benefits this technology can provide to society, and we applaud the Committee's proposal to expand the scope of exemptions for innovations specifically oriented toward enhanced mobility for the disabled community.

The need for flexibility is urgent. The advent of AVs has presented industry with a rare opportunity to redesign vehicles from the ground up. However, current regulations favor retrofitting existing automobiles with AV technology, while innovative designs—which have the potential to unlock transportation for the 57 million Americans with a disability—are still subject to onerous barriers to entry. Novel designs must gain parity to ensure that our disabled, elderly, and wounded veteran populations have access to the same user-friendly transportation options that many today take for granted. Without parity, innovators with the vision to create novel, accessible vehicle designs will face regulatory obstacles that dis-incentivize their innovative instincts.

We recommend that the federal government work with representatives of underserved communities to ensure that OEMs and other developers can innovate on vehicle design. One way to accomplish this, as identified by the Committee, is to expand the exemption regime to allow for the testing and deployment of technologies specifically designed to benefit the disability community. Other avenues should also be explored, such as the use of DOT-designated AV proving grounds, or other deployment sites or communities, where AV developers are permitted and encouraged to test design-and-use scenarios that would specifically benefit the disability and elderly communities.

Advisory Committees

Crafting policy that creates a pathway to the deployment of new transportation options for the disability and elderly communities is challenging, and the federal government need not—and should not—embark on this journey alone. Advancing the right policies necessitates creating a formal "seat at the table" to ensure that the interests, advice, and guidance of the disabled and senior communities are continually integrated into the very fabric of this quickly developing industry. Federal advisory committees can serve this function, though they must be vested with a mandate equal to the task and structured in a way to maximize their value and impact.

There is a moral imperative to take these actions. For these communities, the quality-of-life benefits that AVs promise will not be fully realized unless they take part in the regulatory and implementation process. Currently, the voices of these groups remain absent from the larger debate surrounding the testing, development, and deployment of AVs.

Moreover, it is important to recognize that while AVs pose exciting opportunities, they also hold the prospect of potentially creating new barriers for certain populations, such as lack of communications access for the deaf and hard of hearing community, to cite just one example. That is why it is absolutely critical that the disability community has seats at the table and provides direct input on the development process to ensure they are not left behind.

With this need in mind, we encourage the creation and utilization of disability and senior advisory committees, such as Federal Advisory Committees, to advise regulators and engage with stakeholders to ensure that the needs of these communities are central to the development process from the beginning. In addition to these communities, follow-up mechanisms must be put in place to ensure these advisory committees remain pertinent to, and prominent in, these discussions.

Importance of Inclusion

We applaud the Committee's interest in creating a pathway for the safe, rapid deployment of AVs. We firmly believe this is a key step in bringing a broad range of benefits to the American public, including enhanced safety, fuel economy gains and the integration of advanced transportation fuels, and improved mobility and independence for underserved populations. To pave the way for consumer acceptance and adoption, it is vital that we do not exclude any group that could potentially benefit from the technology. We strongly recommend that both government and industry bring the disabled community, senior citizens, and wounded veterans into that conversation at the earliest possible moment.

We hope that this ongoing mobility revolution will produce commonsense regulations that improve vehicle safety, foster innovation, increase access for all Americans, enhance our nation's transportation systems, and elevate U.S. energy security and efficiency. Together, we urge Congress to act with all voices at the table.

Sincerely,

Securing America's Future Energy (SAFE)

National Association of the Deaf

National Cued Speech Association

Segs4Vets

Paralyzed Veterans of America

60 Plus Association

National Federation of the Blind

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June 27, 2017

The Honorable Robert Latta, Chairman
The Honorable Janice Schakowsky, Ranking Member
U.S. House Committee on Energy & Commerce
Subcommittee on Digital Commerce and Consumer Protection
2125 Rayburn House Office Building
Washington, DC 20515

RE: Hearing on "Self-Driving Vehicle Legislation"

Dear Chairman Latta and Ranking Member Schakowsky:

We write to you regarding the hearing on "Self-Driving Vehicle Legislation."[1] We appreciate the Subcommittee's request for comments from EPIC on the proposed legislation.

EPIC has previously testified before Congress on "The Interntet of Cars" and will be participating in the joint FTC / NHTSA workshop this week on "Privacy, Security Issues Related to Connected, Automated Vehicles."[2]

EPIC appreciates the Subcommittee's interest in the privacy and cybersecurity risks of automated vehicles, as well as the effort to ensure that the safety and privacy of American consumers is protected. EPIC also supports the role of state regulators in crafting strong privacy regulations to safeguard consumers. At present, more than 18 states have adopted legislation concerning "self-driving vehicles" to safeguard consumers.[3] At the outset, we recommend federal baseline legislation that allows states to regulate upward as new privacy and security risks are identified.

Let NHTSA Enforce Autonomous Vehicle Driving Regulations (LEAD'R) Act

[1] *Self-Driving Vehicle Legislation*, 115th Cong. (2017) H. Comm. on Energy & Commercs Sub. Comm. on Digital Commerce and Consumer Protection, https://energycommerce.house.gov/hearings-and-votes/hearings/self-driving-vehicle-legislation (Jun. 27, 2017).

[2] Statement of Khaliah Barnes, hearing on *The Internet of Cars* before the House Committee on Oversight and Government Reform, November 18, 2015, https://epic.org/privacy/edrs/EPIC-Connected-Cars-Testimony-Nov-18-2015.pdf; *Connected Cars: Privacy, Security Issues Related to Connected, Automated Vehicles,* FTC, https://www.ftc.gov/news-events/events-calendar/2017/06/connected-cars-privacy-security-issues-related-connected (hereafter "FTC/NHTSA Workshop").

[3] *Autonomous Vehicles: Self-Driving Vehicles Enacted Legislation,* National Conference of State Legislatures, Jun. 26, 2017, http://www.ncsl.org/research/transportation/autonomous-vehicles-self-driving-vehicles-enacted-legislation.aspx.

EPIC has long opposed federal preemption where privacy interests are concerned.[4] States are the "laboratories of democracy," and their right to develop new protections above a federal baseline is well established.[5] However, the proposed legislation preempts states from issuing any rule, regulation, or law that is not identical to a previously issued Federal Motor Vehicle Safety Standard ("FMVSS") issued by NHTSA, including in the areas of software and communications systems.

While there may be a need to ensure uniformity for vehicle design and mechanics, preempting states from issuing rules and regulations for software and communications systems will effectively prevent states from developing innovative privacy safeguards. This stands in contravention to the historic role that states have played in the privacy arena.[6] EPIC recommends that this bill be revised to allow states to issue privacy and security regulations that do not conflict with federal standards.

Automated Driving System Cybersecurity Advisory Council

EPIC supports the creation of an Automated Driving System Cybersecurity Advisory Council. The task of protecting the privacy and security of drivers will be more effective with the input of experts from outside of the government. EPIC recommends that independent experts and representatives from privacy and consumer organizations be added to the Cybersecurity Advisory Council. Such groups bring additional expertise and a unique view that cannot be obtained by those whose companies have a financial interest in the development and deployment automated vehicles. Additionally, representatives of consumer and privacy organizations can express the interests and concerns of consumers and provide a voice for the general public in this process.

Sharing Automated Vehicle Records with Everyone for Safety Act

EPIC believes that this bill needs substantial revisions. The purpose of this advisory committee appears to be to keep the public in the dark about how autonomous vehicles are being developed. The public has a right to know whether the vehicles being marketed to them are safe and have gone through rigorous testing. Information sharing among manufactures of highly automated vehicles is important as sharing such information will ultimately produce a safer

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[4] *Privacy Preemption Watch,* EPIC, https://epic.org/privacy/preemption/.

[5] See e.g. Electronic Communications Privacy Act; Right to Financial Privacy Act; Cable Communications Privacy Act; Video Privacy Protection Act; Employee Polygraph Protection Act; Telephone Consumer Protection Act; Driver's Privacy Protection Act; Gramm-Leach-Bliley Act.

[6] *See Hillsborough County v. Automated Medical Laboratories*, 471 U.S. 707 (1985) (there is a "presumption that state or local regulation of matters related to health and safety is not invalidated under the Supremacy Clause"). Privacy is included in the category of health and safety issues as an area of regulation historically left to the states. For instance, in Hill v. Colorado, the Supreme Court upheld a law protecting the privacy and autonomy of individuals seeking medical care, as the law was intended to serve the "traditional exercise of the States' 'police power to protect the health and safety of their citizens.'" 530 U.S. 703 (2000).

product. However, the public has a right to be aware of the problems that may be associated with these vehicles.

Transparency in automated vehicle development will likely improve consumer trust and confidence. Despite the industry's rush to produce these vehicles, consumer confidence in automated vehicles is low.[7] Encouraging manufacturers to intentionally kept secrets from the public will only serve to harm consumer trust.

Finally, as with the Automated Drivers Cybersecurity Council proposed legislation, if an advisory committee is formed to help facilitate information sharing, the committee should include non-profit consumer advocacy groups.

Guarding Automakers Against Unfair Advantages Reported in Public Documents Act

While EPIC respects the need of manufacturers to protect some information, not all information related to autonomous vehicles is a trade secret. Reports relating to crash data, cybersecurity, and object detection should not be considered proprietary information. Releasing such information to the public and sharing it with other manufactures is vital to ensure consumer confidence.

EPIC is a leading advocate for algorithmic transparency.[8] The need for transparency in automated vehicles will only increase in importance as algorithms make decisions for vehicles. This is especially true if the cars are designed in a way where the decision they make regarding how to respond to unexpected objects in the road may be different than that of a human driver. Algorithmic transparency is necessary to allow for consumer trust in automated vehicles. Instead of paving the way for companies to allow these companies to keep their algorithms secret, Congress should encourage transparency. The algorithms used in autonomous vehicles may have severe consequences for the safety of the driver, passenger, and individuals in the vicinity of autonomous vehicles. Consumers deserve to know what their car is programmed to do, and our roads will be safer if they do.

Managing Government Efforts to Minimize Autonomous Vehicle Obstruction Act

Autonomous vehicles fall into the regulatory jurisdiction of several agencies. We support efforts to combine NHTSA's engineering expertise with the FTC's expertise in the fields of data privacy and data security. We note also the important collaboration this week between NHTSA

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[7] Melissa Burden, *J.D. Power: Consumer Trust in Self-Driving Cars Drops,* The Detroit News, Apr. 18, 2017, http://www.detroitnews.com/story/business/autos/general-motors/2017/04/18/jd-power-consumer-trust-self-driving-tech-drops/100603780/; Zeninjor Enwemeka, *Consumer Don't Really Want Self-Driving Cars, MIT Study Finds,* WBUR, May 25, 2017, http://www.wbur.org/bostonomix/2017/05/25/mit-study-self-driving-cars; Tracey Lien, *Consumers Aren't As Excited As The Auto Industry About Self-Driving Cars,* Los Angeles Times, Sep. 28, 2016, http://www.latimes.com/business/technology/la-fi-tn-kbb-self-driving-car-survey-20160927-snap-story.html.

[8] *Algorithmic Transparency: End Secret Profiling,* EPIC, https://epic.org/algorithmic-transparency/.

and the FTC in the joint workshop on "Privacy, Security Issues Related to Connected, Automated Vehicles."[9]

Conclusion

We ask that this letter be entered in the hearing record.

EPIC looks forward to working with the Committee on these issues of vital importance to the American public.

Sincerely,

/s/ *Marc Rotenberg*
Marc Rotenberg
EPIC President

/s/ *Caitriona Fitzgerald*
Caitriona Fitzgerald
EPIC Policy Director

/s/ *Kim Miller*
Kim Miller
EPIC Policy Fellow

[9] FTC/NHTSA Workshop.

NAMIC®
NATIONAL ASSOCIATION OF MUTUAL INSURANCE COMPANIES

Statement

of the

National Association of Mutual Insurance Companies

to the

United States

House of Representatives Committee on Energy and Commerce

Subcommittee on
Digital Commerce and Consumer Protection

Hearing on

Self-Driving Vehicle Legislation
Tuesday, June 27, 2017 - 10:00am
Location: 2123 Rayburn

The National Association of Mutual Insurance Companies (NAMIC) is pleased to provide comments to the House Energy and Commerce Subcommittee on Digital Commerce and Consumer Protection in its consideration of the hurdles for testing and successful deployment of automated driving systems (ADS). Both state and federal roles are vital to ensure safety while promoting innovation and American competitiveness. We appreciate the committee's focus on an important matter that has the potential to greatly impact the domestic U.S. property/casualty insurance industry.

NAMIC is the largest property/casualty insurance trade association in the country, with more than 1,400 member companies representing 39 percent of the total market. NAMIC supports regional and local mutual insurance companies on main streets across America and many of the country's largest national insurers. NAMIC member companies serve more than 170 million policyholders and write more than $230 billion in annual premiums. Our members account for 54 percent of homeowners, 43 percent of automobile, and 32 percent of the business insurance markets.

NAMIC fully supports ADS innovation and competitive development that enhances safety. In this context, ADS innovation will be the deliberate application of information, imagination, and initiative by which new ideas are generated and converted into greater driving safety. It is important to note, however, that while technology is a key part of ADS innovation, it is not the only part. Integrating innovative practices, operations, rules, and regulations will be just as necessary to ADS innovation as technology.

With respect to Automated Driving Systems (ADS), NAMIC has participated in National Highway Transportation Safety Administration (NHTSA) panels relating to state authority and pre-market approval, serves on the Board Member of Advocates for Highway Safety and Auto Safety, and is working with the Insurance Institute for Highway Safety supporting the Virginia Tech Transportation Institute as part of the National Cooperative Highway Research Program.

Automated Vehicle Technology

Enthusiastic advocates of ADS contend that NHTSA blames 94 percent of all car crashes on human error, and infer or directly state that ADS will eliminate that human error, and thus the overwhelming majority of car crashes. That oft-cited 94 percent comes from NHTSA's Critical Reasons for Crashes Investigated in the National Motor Vehicle Crash Causation Survey, which reported on The National Motor Vehicle Crash Causation Survey conducted from 2005 to 2007. The critical reason, which is the last event in the crash causal chain, was assigned to the driver in 94 percent (±2.2 percent) of the crashes in that survey, but the NHTSA defined the 'critical reason' as only the immediate reason for the critical pre-crash event, and simply the last failure in the causal chain of events leading up to the crash.

Critical reasons were broadly classified into recognition errors, decision errors, performance errors, and non-performance errors:

- Recognition error, which includes driver's inattention, internal and external distractions, and inadequate surveillance, was the most (41 percent ±2.2 percent) frequently assigned critical reason.
- Decision error, such as driving too fast for conditions, too fast for a curve, false assumption of others' actions, illegal maneuver and misjudgment of gap or others' speed accounted for about 33 percent (±3.7 percent) of the crashes.
- In about 11 percent (±2.7 percent) of the crashes, the critical reason was performance error such as overcompensation, poor directional control, etc.
- Sleep was the most common critical reason among non-performance errors that accounted for 7 percent (±1.0 percent) of the crashes.
- Other driver errors were recorded as critical reasons for about 8 percent (±1.9 percent) of the drivers.

These specific definitions are relevant to the proposed application of ADS as a remedy to these specific errors. The central premise behind the development and broad application of ADS technology is that ADS will have fewer of these specific recognition errors, decision errors, performance errors and other errors than human drivers represented by the survey. ADS that result in a significant reduction in these specific errors should have a corresponding reduction in crashes and result in greater vehicle and personal safety.

The Hurdles for Testing and Successful ADS Deployment

ADS may have the potential to be much safer than human drivers, and could result in a dramatic decrease in crashes and highway deaths. But ADS are also experimental, complex, and include numerous known and unknown hazards as well as unintended consequences. There are literally millions of related technological and policy questions also related to liability, cyber security, vehicle connectivity, and infrastructure.

An even more challenging area is how ADS technology will deal with the transitional period, while non-ADS drivers share the road and continue to make the same and new recognition errors, decision errors, performance errors and other errors. As policies and regulations are made toward this ambitious ADS safety goal, communicating relevant data and analysis is critical to verify the safest transition from user-controlled to automated driving.

The technical challenges to ADS testing and successful development are vast and complex — too vast and complex to even begin to enumerate here. But even if these thousands of technical challenges can be successfully addressed, ADS will not be adopted unless consumers can be convinced that ADS use will be safe and desirable. Recent surveys by both the Massachusetts Institute of Technology and J.D. Power have indicated that consumer comfort or trust in full automation appears to actually be declining. A shift away from trust in automation was observed across all age groups,

and most notably in younger age ranges which had previously been most open to ADS. Roughly half of those surveyed stated that they would never purchase an ADS vehicle.

As consumers learn more about ADS, they appear to have more questions rather than fewer. A critical hurdle for ADS deployment is that consumers lack relevant information to adequately gauge the performance and potential benefits of ADS. Consumers will require objective assessment and evaluation of just how ADS are safer than human drivers, and in what conditions. Consumer acceptance will require expert collection and evaluation of data and analysis on the ADS as designed, as well as objective data and analysis from crashes involving ADS.

The history of the auto insurance industry provides ample evidence of that experience and expertise needed to gain consumer acceptance, which will be augmented by the commitment of the insurance industry to enhance driving safety. A critical requirement for the testing and successful development of ADS will be insurers using their decades of expertise to provide objective, data-based safety evaluations. This will require ADS companies to collect uniform ADS design and safety information and make that information available to insurers. In addition, insurers will need access to ADS information and data – including crash accident and incident information – that is timely, complete, and useful.

The Insurance Institute for Highway Safety is the premier organization dedicated to reducing the losses — deaths, injuries, and property damage — from crashes on the nation's roads. The Highway Loss Data Institute provides scientific studies of insurance data representing the human and economic losses resulting from the ownership and operation of different types of vehicles and publishes insurance loss results by vehicle make and model. Advocates for Highway and Auto Safety is an alliance of safety groups and insurance companies working together to make America's roads safer.

State and Federal Roles to Ensure Safety While Promoting Innovation and American Competitiveness

Promoting innovation and competitiveness will require joint development of state and federal rules and regulations. NAMIC advocates that the roles of states and federal authorities would best facilitate ADS safety development as follows:

1. The Federal government – through NHTSA – should have the authority to make determinations of the required performance and safety, as well as data integrity, of ADS.
2. States and localities should have the authority to make the determinations of the registration, licensing, and operation of ADS in that state/locality.
3. States should retain the regulation of ADS insurance for the vehicle or operator.
4. States should define and address ADS personal liability issues in state/tort law and regulation in line with existing liability constructs. States and federal

authorities should have the authority to define and address ADS liability issues in law and regulation.

5. States and federal authorities working together should make clear and workable data security and privacy requirements for ADS.

NAMIC has provided the Subcommittee staff with numerous and detailed comments on the proposed Self-Driving Vehicle Legislation now being considered by the Subcommittee. While generally supportive of the proposals by the Subcommittee and strongly supportive of the statutory mission of NHTSA to regulate the design and performance of motor vehicles to ensure public safety, the proposals creating exemptions from NHTSA review and pre-market approval are concerning. It is the role of NHTSA to issue comprehensive standards and regulations to govern the ADS Safety, and where NHTSA does not fully do so, the states should have every authority to provide state regulations to ensuring public safety. There is jurisdictional uncertainty as to when, where and how NHTSA voluntary guidelines and exemptions may allow – or even require – states to provide safety related ADS regulations. We suggest that addressing this question is paramount to the development and adoption of safe ADS.

In summary, NAMIC supports ADS development, and insurers are leading advocates toward 100 percent adoption of 100 percent safe ADS. The realistic support of all potential for greater safety requires that insurance companies be encouraged to objectively identify and analyze facts and data on the leading edge of ADS development. The development and adoption of ADS will be benefited by substantial policy and coverage changes (e.g., enhanced personal cyber liability coverage) which will be informed by the same factual analysis and review. As the primary rationale for ADS development is reducing vehicle accidents and deaths, it is important that insurers have an active role in the development of a realistic appraisal of those benefits.

NAMIC greatly appreciates the opportunity to provide this testimony to the Committee and looks forward to working with the Committee in the development of ADS policy and regulation.

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